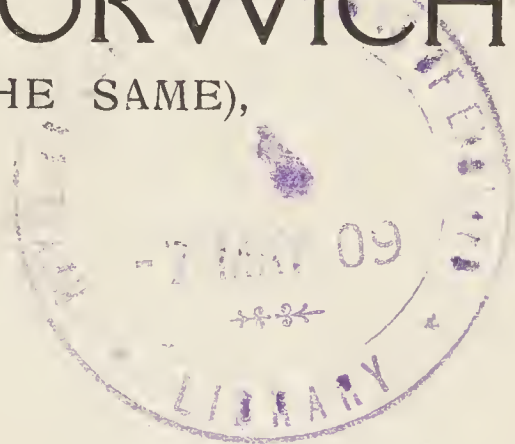




ANNUAL REPORT  
UPON THE  
HEALTHINESS OF THE  
CITIZENS,  
AND UPON THE  
SANITARY CONDITION  
OF THE  
CITY OF NORWICH  
(AND COUNTY OF THE SAME),  
FOR THE YEAR  
1908.



BY

*H. COOPER PATTIN, M.A.,*

A DOCTOR IN MEDICINE, A BACHELOR IN SURGERY,  
AND A DIPLOMATE IN PUBLIC HEALTH OF THE UNIVERSITY OF CAMBRIDGE,  
PHYSICIAN TO THE CORPORATION HOSPITALS,  
MEMBER OF THE COUNCIL OF THE SOCIETY OF MEDICAL OFFICERS  
OF HEALTH, EX-PRESIDENT NORWICH MEDICO-CHIRURGICAL SOCIETY,  
MAJOR À LA SUITE S.S., R.A.M.C., T.F., M.O.H., AND P.S.M.O.

NORWICH:

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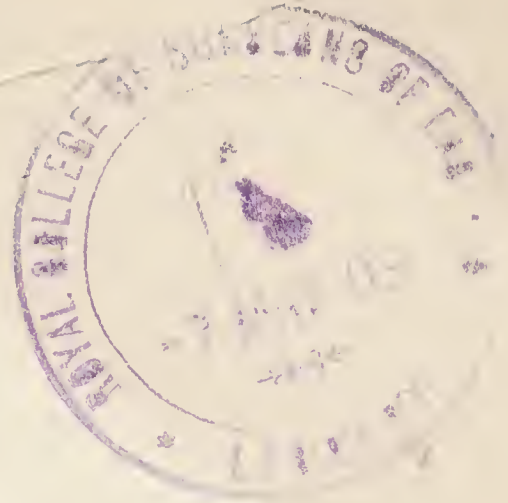
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CITY OF NORWICH.

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## HEALTH COMMITTEE.

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*Mayor :*

WALTER RYE, ESQ.

*Chairman :*

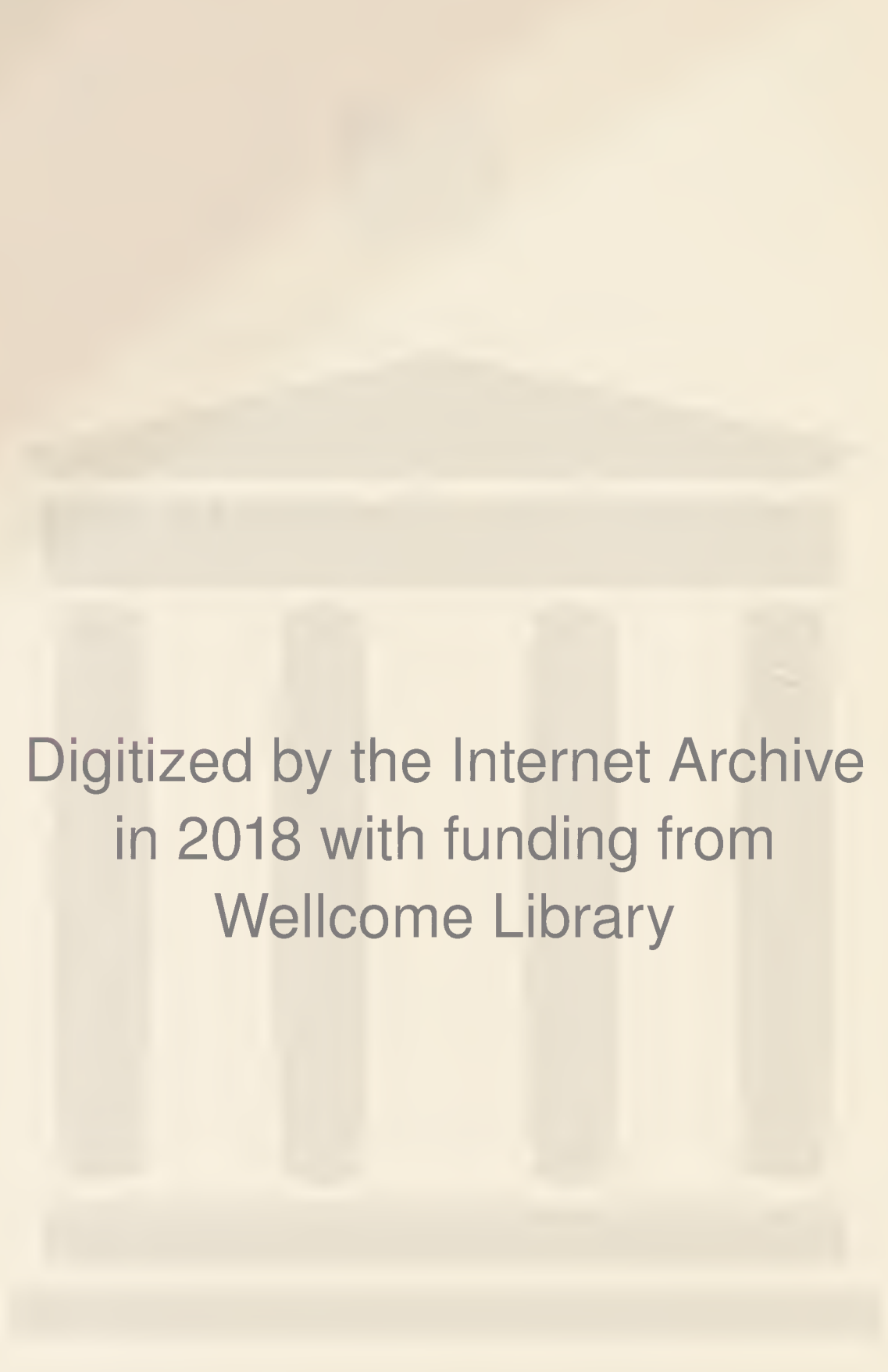
MR. ALDERMAN MORSE. J.P.

*Vice-Chairman :*

MR. COUNCILLOR CROTCH, J.P.

*Members :*

MR. COUNCILLOR BAGGE			MR. COUN. ODHAMS. M.D., J.P.		
"	"	DAY	"	"	PARISH
"	"	LAMBERT	"	"	PYKE
"	"	LEMON	"	"	ROBINSON, J.P.
"	"	MURRELL	"	"	RUDD
"	"	HOTBLACK	"	"	SHORTEN



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## PREFACE.



TO THE CHAIRMAN AND MEMBERS OF THE NORWICH  
URBAN SANITARY AUTHORITY.

GENTLEMEN,

By a General Order of the Local Government Board, dated 23rd March, 1891, it is prescribed that every Medical Officer of Health shall:—

*Make an Annual Report to the Sanitary Authority up to the end of December in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority to take, during the year for preventing the spread of disease, and an account of the sanitary state of his district generally at the end of the year.*

*“The Report shall also contain an account of the enquiries which he has made as to the conditions injurious to health existing in the district, and of the proceedings in which he has taken part, or advised under any statute, so far as such proceedings relate to these conditions.*

*“Also an account of the supervision exercised by him, or on his advice, for sanitary purposes over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year.*

*“The Report shall also record the action taken by him, or on his advice, during the year in regard to offensive trades, to dairies, cow-sheds, and milk shops, and to factories and workshops.*

*"The Report shall also contain tabular statements of the sickness and mortality within the district, classified according to diseases and localities," etc., etc.*

This Report is made in fulfilment of the above regulations.

The *birth-rate* for the year, 25·275 per 1000 of the population at all ages, for the first time in the history of the City since 1901, is fractionally higher than it was in the preceding year (25·0); and to those who are disquieted by the fall in the birth-rate for the country as a whole, will prove of interest and of comfort. The average birth-rate for the 76 great towns remained stationary, being 27·0 per 1000. There were 38 more of male than of female children born during the year. There were 155 children known to be illegitimate born, 16 more than in 1907; and the infantile mortality rate for these children, as usual, was much higher than for the children as a whole—the special death-rate among the illegitimate infants being 193·5 per 1000 births: the infantile mortality rate for all infants being 115·25 per 1000 births.

The *gross recorded death-rate*, 14·0 per 1000 (the deaths of non-residents are included) is lower than that for the 76 great towns considered together, viz., 14·9 per 1000. The *corrected death-rate* is 13·25. In 1907 our gross death-rate was 14·6 per 1000, and that for the 76 great towns 15·6 per 1000. The average Norwich death-rate for the preceding five years has been 16·6 per 1000.

The *zymotic death-rate* for the year was 1·1 per 1000. In 1907 it was 1·3 per 1000. The corresponding rates for the 76 great towns were 1·5 for each year. The fall in the Norwich rate is 0·2 per 1000 whilst in the 76 great towns the rate remained stationary.

The *infantile mortality rate*, 115·25 per 1000 births, like the death rate, the lowest recorded, constitutes the most satisfactory feature of our report for the year. The corresponding rate in the



76 great towns is 128·75 per 1000 births. In 1907 these rates were 124·75 and 127·25 respectively; so that whilst there is a fall in Norwich rate of 9·5 per 1000 births, there has been a rise of 1·5 in the rate (averaged) for the 76 great towns; in other words, a saving in the case of our own population of 30 lives, as compared with 1907. A cause of the lessened infantile mortality, un-doubtedly, was the relatively cool summer, but there is no doubt also that it is largely due to the instruction given in the homes by our Health Visitors, and to the assistance given to the badly-nourished mothers by the Sick Poor Society. The aid, in the shape of dinners to ill-nourished expectant mothers, given by the C.O.S. upon my recommendation, has also contributed to the gratifying lessening in this special and most important death rate. Of the generous assistance given to ill-nourished mothers by the Sick Poor Society, it is impossible for me to speak too warmly, especially as this Society has strained its resources to give milk, usually one pint per diem for five weeks, to the mothers recommended. Since midsummer, when the Society first took up this work, out of 195 names sent in, 184, or 95 per cent., received assistance, and promptly. The Charity Organization Society undertook to investigate the circumstances of such badly-nourished expectant mothers as I might recommend, and endeavour to get dinners provided for those it deemed sufficiently deserving. Out of 28 so recommended, it arranged for the provision of some dinners for 14. This is so admirable a way of assisting badly-nourished expectant mothers that I hope to see it much extended and more systematised as time goes on. A practical inference to be drawn from the effect of relatively low temperature in checking degenerative and, indeed, putrefactive changes in milk, is the advantage to be derived by keeping milk, especially milk intended for the food of infants, at a low temperature, particularly when the weather is hot. If such milk were always kept in a cleanly corked or stoppered bottle, or other clean sealable vessel, and that bottle or receptacle were kept immersed in cold water (failing ice), contact with it by flies could be prevented, putrefactive and degenerative changes lessened, and diarrhoeal disorders discouraged, checked, and stayed. Whilst, as compared

with previous years, an infantile mortality rate of 115 per 1000 births is very encouraging, I have to point out that this lessened rate, amounting, as it does, to one child out of every nine born, merits unflagging attention. A number of the factors contributory to this result cannot properly be stated here, but the more obvious are set out in the special table (p. 26-27). I invite attention to the deaths attributed to "Premature Birth," Congenital Defect," and "Debility," because these suggest, and strongly, the existence of conditions of an unfavourable character which affect the child, through the mother, prior to its birth. And I invite attention to these considerations because it is so commonly assumed that infantile mortality is due almost entirely to imperfect or improper feeding of the child; and, if you include in your definition of the feeding of infants, the nutrition of the mothers, there is a strong case to be made out. Infant mortality cannot be dissociated from *pre-natal* influences, and be regarded as due solely to *post natal* causes. A considerable proportion of the parents are naturally of enfeebled constitution—some are intemperate drinkers, many are relatively underfed, and others not so much under as unwisely or intemperately fed. Some of the mothers induce in themselves undesirable conditions of debility, *e.g.*, by working too strenuously during the later stages of pregnancy, or by bearing children too rapidly, &c. In short, we have always to keep in our minds Burke's definition of the community, *viz.*, that it is "*a partnership not only between those who are living, but between those who are living and those who are dead, and those who are to be born,*" and must endeavour rightly to estimate the antecedents to death, and it is in respect of these that *ante-natal* conditions become so important.

The Notification of Births Act, came into force in the City on the first of the year and through its operation the Health Department received directly information of more than half the births and directly and indirectly of three-fourths. I regard this Act as being specially useful in giving us early information of births where no doctor is in regular attendance; the early call of the



Health Visitor at the home, enables us to give advice respecting the feeding of the newly born infants of the greatest value. It is by means of these visits that I get knowledge of badly nourished mothers, and can recommend them to the Sick Poor Society for assistance. Moreover the call of the Health Visitor personifies the interest which the community, as a whole, takes in the welfare of the most helpless of its constituents; and, exercised with tact and discretion, this interest becomes a stay, support, and encouragement to the well-meaning parent, and a reproof, reproach, and restraint to the indifferent and the careless. It is by means of these visits, aided by a constant if gradual heightening of the general level of intelligence, that we have to alter much in the racial attitude toward the obligations of maternity and of paternity, and to substitute for well-meaning ignorance, and an ethically demoralizing disinclination to take trouble, a civic consciousness that rightly to rear up a future citizen is a racial duty committed to the care of the parents, the efficient discharge of which is as patriotic a service as can be rendered to the State.

During the year the Health Visitors paid over 16,000 visits and re-visits to houses and found in them 1222 sick persons (474 of these latter being infants). They got 133 houses and 179 persons cleaned. They found 212 of the householders out of work, and 447 working at irregular times. 1768 of the visits to houses were made in connection with and were due to the medical inspection of school children. They made over 8381 inspections of infants, 2440 of them being newly born, and found 2145 of these latter being fed from breast, 101 being breast and spoon fed, 46 being fed from bottles with long tubes, 103 from bottles with short teat, 16 spoon fed, 18 partly from breast and partly from long tube bottles, and 11 partly from breast and partly from bottles with short teat: 474 of the infants were found to be ailing. They reported 1945 of the mothers as being healthy, 254 as being healthy but not strong, 42 as very delicate, 205 as badly nourished, 72 as working out, and 64 as taking in work at home: 83 infants were fed on dried milk ("Glaxo") and Allen & Hanbury's Food

was given to 18. (The infants so fed are brought to the office to be weighed once a fortnight.) They got bad methods of feeding changed for better in 160 cases. 76 still-births were notified and there were 32 sets of twins; of the houses visited, those with 4 bedrooms (1.4 per cent) contained an average of 1.8 persons at all ages per bedroom: those with three bedrooms (36.6 per cent.) contained an average of 2 persons of all ages per bedroom, those with two bedrooms (50.5 per cent.) contained an average of 2.7 persons at all ages per bedroom and those with only one bedroom (11.5 per cent.) contained an average of 3.4 persons at all ages. In other words the 4 bedroomed houses contained a population of 7.2 persons; the 3 bedroomed houses 6 persons, the 2 bedroomed houses 5.4 persons and those with only 1 bedroom 3.4 persons. The average population *per house* of the City as a whole being 4.5 persons.

The Local Government Board requests that the M.O.H. will state what arrangements have been for the Medical Inspection of School Children under the Education (Administrative Provisions) Act, 1907, and to include in his Annual Report an account of the work done under the Act. The arrangements made in this city include the appointment of Dr. D. M. Mathieson, as a School Medical Officer, whose duties were defined as being "principally the medical inspection of school children and cognate work," and, on my recommendation, the assignment of the services of each of the four Health Visitors in turn, as the children in her district were examined. This arrangement has worked admirably, and the knowledge the Health Visitors possess of the home surroundings of the scholars has made possible the collection of a large amount of collateral information bearing upon the homes, relative crowding, occupations of householders, etc. Dr. Mathieson began work early in May and the following summary represents the general character of the work accomplished up to December 31st, 1908. (A more detailed report will be furnished to the Board of Education). The total number of children examined was



3334, made up of 2330 "Enterers" and 1004 "Leavers," the former being children who were admitted to the schools during 1908, the leavers those who were leaving school during the latter half of the year. The scholars who enter and who leave during the year being those the Board of Education asks specially to have examined. 1223 of the enterers were boys and 1102 girls. Of the leavers 524 were boys and 480 girls. The following were the principal defects recorded and needing medical care:—Naso-pharyngeal obstruction (enlarged tonsils, adenoids, etc.), sufficiently serious unfavourably to influence health, affected, 7·5 per cent.; diseases of the ear, 1·0 per cent.; diseases of the eye, including cases of marked visual defect, 1·5 per cent.; diseases of the chest, 0·6 per cent. The following other defects:—Defective teeth (*a*) very extensive caries, 0·7 per cent.; (*b*) fairly extensive caries, 33 per cent.; and, inclusive of the above, some caries, 83 per cent. Rickets, 3 per cent.; and minor degrees of Naso-pharyngeal obstruction, 13 per cent. Parents were advised to obtain prompt medical treatment in 13·2 per cent. of all the cases. The Health Visitors followed up these cases in the homes and by the end of the year 81 per cent. of them were found to have received medical attention. The ordinary inspections always took place at the schools and were held in mornings and afternoons. The parents were always invited to be present and actually were present at the examination of 72·5 per cent. of the children inspected. In addition to the above routine inspections a number of additional children were examined in the schools at the request of the teachers, and at the Municipal Offices over 600 cases, sent up for special reasons, were examined. Dr. Mathieson also visited periodically the mentally defective children in their special classes, and examined 50 children with reference to their suitability for inclusion in the mentally defective class, and some mentally sub-normal children. 30 pupil teachers were examined, and some children whom it was desired to get admitted to institutions for the deaf and dumb. A very interesting experiment was made with an open-air school, and with very encouraging results, the children attending being examined at intervals and specially reported upon. The work of medical



inspection has been carried out with great efficiency by Dr. Mathieson, and the Health Visitors, teachers, and parents have co-operated with him very gratifyingly.

I take the opportunity to add that this beginning of what one hopes will develop into a systematised inspection of the whole growing population is, from the standpoint of national healthiness, of the greatest importance, and I only regret that no provision has been made for the inspection of children during the vitally important years preceding the entry upon school life. To the hygienist, an inspection of every child, at least once a year from birth to adolescence, is a goal to look forward to. It certainly will provide an efficient means of correcting, if it be not practicable altogether to eradicate defects and disabilities.

The Secretary of State for the Home Department having asked me to make enquiries into the effect of factory and other away-from-home labour upon the health of child-bearing women and the viability of their offspring, I caused careful investigations to be made into 91 cases. These enquiries were made with great tactfulness by the Health Visitors. The results enable me to state that 58 of the affected women were married and 32 single, the percentage of illegitimate births being 37 (two married women living apart from their husbands giving birth to infants). Of the 91 mothers taken together, 80 per cent. are reported to be healthy, 13 per cent. to have indifferent health, and 7 per cent. definitely to have bad health; 75·8 of the women were attended in child-bed by midwives, 2·2 per cent. of the confinements being defined as "bad"; 20·9 per cent. of the women were attended by doctors, and 5·6 per cent. of these confinements are reported as having been "bad"; 3·3 per cent. of the women were confined in the Union Infirmary. 4 of the 91 women previously to 1908 had given birth to still-born children and 2 had had miscarriages (one twice). These 91 women had borne (inclusive of those born in 1908) 349 living children, and at the end of the year 278 of these remained alive, the families ranging from 1 child (31) to 12 children (1); 36

of these children had died during the first year of life. Of the children born alive during 1908, so far as can be ascertained, 5 were dead by the end of the year, and there were 3 still births, a proportion equal to 3·3 per cent., the corresponding rate for all the mothers in the city being 2·5 per cent.

In the case of nine of the mothers earlier children had died in the first year of life, and one woman, a rag sorter, aged 30, had a history of 2 miscarriages and of 8 children dying within the first year of life. With 35·4 per cent. of the children born during the year breast feeding ceased within 1 month from the birth, in 9·0 per cent. within 2 months, in 7·6 per cent. within 3 months, in 3·2 per cent. within 4 months, in 3·2 per cent. within 5 months, in 1·0 per cent. within 6 months, whilst in 20·0 per cent. breast feeding was continued for more than 6 months; 20·6 per cent. were fed artificially practically from birth.

In 82 cases we were able to find out how soon the mother ceased to work prior to the birth; 6 of these worked up to within 1 day or less, 14 within 2 days, 12 to within a week, 4 to within 2 weeks, 5 to within 3 weeks, 10 to within 1 month, 2 to within 5 weeks, 3 to within 6 weeks, and 8 to within 2 months, 10 to within 3 months. The remainder stopped working earlier. Work in 67 cases was resumed after birth in the case of 6 within 2 weeks, 7 within 3 weeks, 16 within a month, 7 within 5 weeks, 12 within 6 weeks, 3 within 7 weeks, 10 within 2 months, and the remainder after lengthier periods. A number of the mothers failed to obtain work.

The age periods of the 59 married women were 20 to 25 years 3, 25 to 30 years 17, 30 to 35 years 19, 35 to 40 years 15, over 40 years 5. The age periods of the 32 single women were 15 to 20 years 8, 20 to 25 years 14, 25 to 30 years 5, 30 to 35 years 2, 35 to 40 years 3. The average wages of 55 of the married women were from 1 to 5 shillings a week 14, 5 to 10 shillings a week 33, 10 to 15 shillings a week 7, 15 to 20 shillings 1. The average wages



of the 32 single women were given as 1 to 5 shillings 4, 5 to 10 shillings a week 18, 10 to 15 shillings a week 7, 15 to 20 shillings 3. The wages of 46 of the husbands of the married women were 5 to 10 shillings a week 1, 10 to 15 shillings a week 9, 15 to 20 shillings a week 23, over 20 shillings a week 13. In the other cases information was refused.

The occupations of the whole 91 mothers as given were—boot trade 44, tailoring and dressing making 9, laundry work 8, horse-hair weaving 6, domestic service 4, chocolate packing 4, “pea-picking” 3, charring 3, mineral water works 2, and brush-maker, flock picker, cardboard box maker, barmaid, rag sorter, weaver, rush plaiter, and clerical 1 each.

On the whole, the results tend to show that in Norwich, at any rate, factory and away-from-home labour has not markedly affected detrimentally the healthiness of the mothers, but that it has affected the viability of their offspring directly by still births and indirectly through the relatively early relinquishment of breast feeding, occasioned in most cases by the necessity of getting back to work; this influence can only be determined with precision when we learn how many of the children have lived 1 year.

The year under review, from an epidemiological standpoint, has been exceptionally of interest in consequence of the occurrence of three definite outbreaks of Shell-fish Typhoid. It has been necessarily a burdensome one to the community, owing to the cost of treating so many cases of Enteric Fever. The direct and indirect cost of the disease in question must have amounted to many hundreds of pounds, and that cost furnishes an additional claim to better legal protection for inland communities than is at present provided; the paramount claim being, of course, the protection of the public health and the saving of human lives. The main facts about these outbreaks are sufficiently familiar to make more than a brief summary needless. The first and most limited outbreak occurred in March and April, and was due chiefly,

if not entirely, to mussels from Breydon. With the issue of a warning and with seizure of mussels at the station, the notifications fell to zero at the expiration of a fortnight. The second and more severe outbreak occurred in the summer, and was due chiefly, if not entirely, to cockles obtained, I believe, from the Orwell. At any rate, the incriminated consignments were sent by train from Ipswich. The issue of another warning, with seizure of cockles on arrival at the station, checked this outbreak immediately and effectually. Some of these cockles seized were certified, after being bacteriologically examined, to be "grossly polluted with sewage." The third outbreak, due chiefly, if not entirely to mussels from Wells, occurred later in the year, and was dealt with in the same manner, *i.e.*, warning and seizure, and with corresponding effect. In dealing with this last eruption I had the ready assistance of Dr. Nash, then newly appointed as M.O.H. for the County of Norfolk, and look forward with confidence to an adequate supervision of the gathering grounds being maintained in the future. The Enteric Fever Chart gives in graphic form the history of the outbreaks. Our experience has satisfied me that an imperative claim exists for arming Sanitary Authorities with power to prohibit the importation into their districts of shell-fish from sources the salubriousness of which there is reasonable ground to suspect, and to hold the Sanitary Authorities of the districts from which shell-fish are exported responsible for the fitness of such shell-fish for human consumption.

The total number of deaths attributed to tuberculous diseases was 212 (in 1907 the corresponding number was 218), of these 212 deaths 142 were attributed to Phthisis (Tuberculosis of the Lungs), and 70 to other Tuberculous ailments. If we assume that for every victim who dies from Phthisis there are at least three and possibly four persons living with this disease at some stage, we have some 500 phthisical people always in our midst, and we have carefully to consider what steps can be taken to lessen this recurring amount of disease. During this current year we shall obtain more accurate information of the distribution of the disease



amongst the necessitous poor. The Local Government Board having issued special regulations which make the notification of Phthisis in poor law patients obligatory. D During the past year the Health Committee paid for voluntary notification of this disease, and 226 notifications reached me in consequence, many, in fact the great majority of the cases, with the disease in too advanced a stage to make sanatorium treatment hopeful. This is a method of dealing with phthisical cases which, apart from directly beneficial effect upon the actual patient, is very valuable as a training in health preservation and disease prevention; in fact, for educational purposes alone, sanatorium treatment can make out a strong claim to consideration by all concerned with public health work. In previous reports I have pointed out that in preference to following the course adopted by some sanitary authorities of providing sanatoria for their tuberculous people, it would, in my judgment, suit us much better to secure to our sole use a number of beds at Kelling. I believe that the expenditure incurred ultimately would prove to be an economical outlay. Expenditure is already incurred in treating patients suffering from Phthisis at the Poor Law Infirmary, 25 such patients having been treated there last year. The amount of a farthing rate would furnish us with the means of giving that number of patients 12 weeks continuous treatment each at Kelling. Enquiries into the sleeping accommodation of the 226 cases of Phthisis which were notified during the year revealed the following conditions:—6·4 per cent. of the households had only one sleeping room, with an average population of three persons; 33·1 per cent. had two sleeping rooms, with an average population per room of 1·9 persons; 54·1 per cent. had three sleeping rooms, with an average of 1·6 persons per room; and 6·4 had four or more sleeping rooms, with an average of 1·7 persons per room.

Evidence is steadily accumulating of the great importance to the community and eliminating tuberculous cattle from our dairies, and it is sincerely to be hoped that Sanitary Authorities will be enabled effectually to prevent milk from any tuberculous animal



from being distributed. Systematic veterinary inspection of all dairy cattle at regular intervals will aid very materially in lessening actual and preventing prospective risk.

The average number of patients in the Isolation Hospital on Saturday nights throughout the year was 59 and the average length of stay of each patient was 37 days. The average number of the nursing staff (excluding the Matron and the Assistant Matron), was 21, and the average number of the domestic staff 12. The new isolation pavilion is now being erected and will be brought into use during the summer. Its use will add greatly to the effectiveness of the Hospital for dealing with doubtful and obscure cases, mixed infections, and adventitious diseases. Isolation being the right method of treating infectious cases, and not isolated aggregation, any method which promotes the effective isolation of individual cases must be directly advantageous to the patients, and indirectly to the community. I look forward confidently to seeing large common wards, divided up into glass-sided cubicles, so that patients will be enabled to see and converse with each other, but not be permitted to come into actual contact. It is virtually impossible to aggregate patients suffering from the same disease, but at differing stages of it and with differing degrees of intensity, in common wards without giving rise to secondary exacerbations and complications, and to lengthen stay in the Hospital and to a more lingering and infectious convalescence. The provision of a destructor has enabled us to satisfactorily and innocuously to dispose of discharges, dressings, and the infectious debris of the hospital generally.

The death rate from Phthisis was the same as in 1907, and that from respiratory diseases (excluding Phthisis) slightly lower. Heart diseases were slightly more fatal, and diarrhoeal diseases rather less. Measles and Whooping Cough were less fatal, also Alcoholism and Venereal Diseases. Influenza was more fatal, also Enteric Fever (considerably) and Scarlet Fever (fractionally). Diphtheria, on the other hand, was less

fatal, the deaths being, as usual, commonly due to diphtheritic paralysis of the heart. In dealing with this disease, I continue the practice of giving protective injections of anti-toxin to "contacts," particularly to children, and am well satisfied with the results, secondary cases being exceedingly rare. In dealing with two schools, each with a large number of boarders, this method proved very efficacious; in neither instance, although other boys had slept in the same room with the original case, was any other inmate affected. Systematic swabbing, and the use of protective injections of anti-toxin, enable us to control diphtheria in households very satisfactorily. During the present year (1909), with the concurrence of the Health Committee, I have arranged to re-supply any anti-toxin which may have been injected by the notifying doctor, hoping thus to facilitate its early use; and have furnished the doctors practising in the City with a preliminary supply. The value which can be derived from treatment with anti-toxin is greatest in proportion with its early use.

During the year 1304 bacteriological examinations were made by Dr. Blake or Dr. Linton, 183 of them being widal tests for typhoid, and the great majority of the remainder being "swabs." All of these examinations were made in the laboratory at the Isolation Hospital. This laboratory, whilst admirably fitted for the Hospital work, is both too small and too remote to cope successfully with the increasing amount of bacteriological work which is likely to be needed in the future. A laboratory attached to my offices would serve us much more conveniently and expeditiously for town use, and would be specially helpful in dealing with ring-worm, &c., among children examined at the schools. Dr. Blake and Dr. Linton examined for me in connection with suspected infectious cases 71 school classes, and caused 23 children to be excluded; 623 certificates have been given in connection with infectious disease amongst school children. As bearing upon the propagation (and prevention) of infectious ailments amongst children, I can but reiterate the opinion I have expressed on former occasions, viz., that it is most desirable that Sunday



Schools should be subjected to the same sanitary regulations as to air space, &c., as prevail in the public elementary day schools.

There were nine midwives on our register, one less than in the previous year, and of their work I can report in general terms favourably. On and after April 1st, 1910, none but registered women will be permitted to act as midwives, and the administration of the Midwives Act will automatically become more stringent. At present an unregistered person can act as a midwife provided that she does not specifically call herself one, and such an unregistered person does not appear to be amenable to control by law, except as the possible outcome of an inquest. I have utilised the services of the Health Visitors (each of whom is a certificated midwife) in making enquiries respecting still births, etc., and in reporting upon the home surroundings, bedrooms, &c., of the practising midwives. I lay special stress upon the hands being carefully disinfected, and the finger nails being kept scrupulously clean; and generally upon care and cleanliness being exercised in dealing with instruments, bags, etc., and in the wearing of washable dresses.

In carrying out the Factory and Workshops Act, 589 inspections of factories and workshops were made, and 60 defects reported and remedied; 106 lists of out-workers were sent in (84 of them twice a year), 1691 inspections of out-workers' (male and female) premises were made; in 129 instances work was being done in unwholesome premises (Section 108), the greater number of which were dealt with by verbal notices, in 10 instances only had formal notices to be served; in 41 instances infectious illnesses occurred in out-workers dwellings (Sections 109-110). The total number of registered workshops was 618, and there were four underground bakehouses (Section 101) in use at the end of the year. In 36 instances action was taken under the Public Health Acts in matters referred by H.M. Inspector of Factories.

Under the Food and Drugs Act 204 samples were purchased and submitted to analysis, and 26 samples of water were taken

from the steadily diminishing number of wells. Of the foods, &c., 179 samples were certified to be genuine and 25 adulterated; and of the samples of water 6 were condemned. In 14 cases prosecutions were undertaken (the details are set out in Chief Sanitary Inspector's Report) and in 13 of these fines varying from 3/- to £2 were inflicted, 1 case was dismissed, and in 8 instances letters of warning were sent to the sellers, and in 5 other instances vendors were written to and cautioned for colouring milk. 38 samples of milk were taken on Sundays. It is but fair to the City milksellers as a body to say that the great majority of the samples yielded satisfactory results, and the percentages of cream in the better samples shew that the standard adopted by the Board of Agriculture (3·0 per cent.) is a very fair one, and errs if it do err on the side of leniency rather than on that of stringency.

The Report of the Chief Sanitary Inspector gives an account of the practical sanitary work carried out during the year, and summarizes what has been done to maintain a sanitary condition in, and to improve the general state of, dairies, cowsheds, milk-shops, common lodging-houses, and slaughter-houses. It also records the changes which have been effected in the character of the closet accommodation provided for dwellings, and for factories and workshops. The change to the water carriage is being effected with steady continuity, this change taking place last year in over 1100 instances—the greatest number reached in our records. The report of the Canal Boats Inspector has been of a satisfactory character.

I again incorporate with this Report the statistical table showing the number of tenements in the wards of the City at the Census. I also include a table of differential death rates in the parishes of the City, and the relative densities of the populations. These are only approximately correct, of course, but the best we can arrive at under existing circumstances. With lessened intercensal periods, the estimates will become more accurate. The

population of the City, as a whole, has increased by one-eleventh, or, roughly, by 10,000 since the last Census. If we suppose that the different parishes have increased their population at the same rate, one-eleventh should be added to the figures cited.

Dr. Blake having accepted the appointment of Medical Inspector of School Children to the Gloucestershire County Council, left the service of the Corporation early in August, and Dr. Linton entered it as Assistant Medical Officer of Health. I deem myself fortunate to have had the assistance, companionship, and services of the former, and to have those of the latter officer. Dr. Mathieson, who joined the Public Health Department in May, was also appointed an Assistant M.O.H., and, though naturally occupied almost entirely with medical inspectorial work in the schools, has from time to time afforded me ready help and valued services.

(Signed)

H. C. PATTIN.

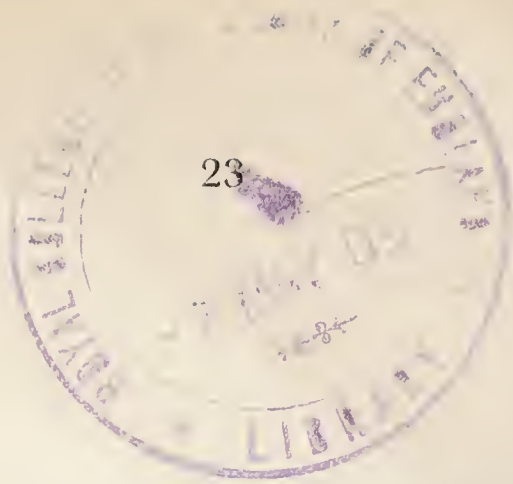
March 4th, 1909.



# METEOROLOGICAL NOTES.

(From observations taken by MR. A. W. PRESTON, F.R.Met.S., at  
Norwich).

				In 1907.	
Barometer reduced to sea level and 32deg. Fah.), from 9 a.m. and 9 p.m. readings :—	Highest (Feb. 7th)	...	30·66 ins.	30·90	
	Lowest (Dec. 10th)	...	28·73 ins.	28·55	
	Mean	...	29·99 ins.	29·94	
Temperature—Maximum (August 3rd)				81·0 degs.	80·0
				(May 11th)	
Minimum (January 5th)		in screen	17·0	„	14·8
„		on grass	14·0	„	11·0
				(Jan. 7th)	
Mean daily maximum		...	55·7	„	55·0
Mean daily minimum		...	42·4	„	41·3
Mean temperature of year		...	49·0	„	48·4
Mean daily range		...	13·3	„	14·2
Mean dry bulb (9 a.m.)		...	49·6	„	49·0
Mean wet bulb (9 a.m.)		...	46·7	„	46·2
Mean dew point (9 a.m.)		...	43·7	„	43·0
Mean relative humidity (9 a.m.)		...	80%	„	80%
No. of nights with		in screen	56	„	56
frost		on grass	108	„	114
Rainfall—Total fall				26·16 ins.	26·25
Below average by		...	0·59 ins.	0·50	
				(above average)	
Greatest fall in one day (July 13th)		...	1·80 ins.	0·74	
				(April 30th)	
Number of days on which rain fell		...	194	210	
Number of days on which snow fell		...	27	25	
Wind—Prevailing directions, w. and s. Gales on 13 days.					



## Summary of the Geology of Norwich.\*

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The geological construction of the soil underlying the City is simple in character. The higher levels are made up of glacial beds, through which the valleys have been excavated, exposing at their margins the crag formation and chalk, while gravel and alluvial deposits occupy the lower ground. The chalk, which at Norwich is nearly 1200 ft. thick, and underlies the whole of the City, comes to the surface in the Market Place, and in other places at a similar level; but it may be reached at no great depth in all parts of the Municipal area. The order of the succession of the glacial and crag beds is shown in excavations on the sides of the high ground surmounted by Mousehold Heath, between which Heath and the City proper winds the River Wensum. Except for some layers of peat in the valley, and a bed of brick-earth over part of the higher ground (as, for example, near the Victoria Station), the soil of the City is of a porous character, and much percolation of fluid takes place through the gravels, &c., into the chalk. The general trend of the drainage of the greater portion of the inhabited area of the City is toward the Wensum.

\* Compiled from information contributed by Mr. F. W. Harmer, F.G.S.

## DEMOGRAPHICAL STATISTICS.

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<i>Enumerated Population at the Census of 1901</i>	...	(a) 111,733
<i>Estimated Population in the middle of 1908</i>	...	(b) 122,841
<i>Area in Statute Acres</i>	... ..	7905
<i>Density of Population (i.e., number of persons per acre) [Rateable value, £462,000]</i>	...	15.5
 <i>Total number of Births registered in 1908</i>	...	3152
<i>Representing a Birth-rate of</i>	... .. 25.275 per 1000	
<i>Average Birth-rate of the 76 great towns being</i>	27.0	per 1000
 <i>Total number of Deaths registered in 1908</i>	...	1759
<i>Representing a gross recorded Death-rate of</i>	... 14.0 per 1000	
<i>*“Corrected Death-rate” for the year</i>	... 13.25	„
<i>†Average Death-rate in the 76 great towns</i>	... 14.9	„
<i>‡Comparative Mortality figure</i>	... ..	901
<i>Average Norwich Death-rate for the previous 5 years, 1903 to 1907 (inclusive)</i>	... ..	16.6 per 1000
 <i>Deaths from the seven principal Zymotic Diseases</i>		140
<i>Representing a Zymotic Death-rate of</i>	... 1.1 per 1000	
<i>Average Zymotic Death-rate in 76 great towns being</i>	... ..	1.5 „

\* The “Corrected Death-rate” signifies the Death-rate which would obtain in Norwich if the local age and sex distribution were the same as those of the country generally.

† Estimated from the Registrar-General’s Quarterly Reports.

‡ Taking 1000 as the mortality figure of the United Kingdom as a whole.

(a) Excluding population added in November, 1907.

(b) Including „ „ „ „

The Deaths of Norwich Citizens from Zymotic Diseases included :—

	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhoeal Diseases.	Puerperal Fever.	Erysipelas.	Influenza.
Under 5 years of age...	3	11	0	1	27	45	—	2	2
Over 5 years of age ...	1	18	36	0	2	4	1	5	22

A glance at the above table will show how large a proportion of the deaths occurred in children under five years of age, and also how a great number of these succumbed to Whooping Cough, and Diarrhoeal Diseases.

*The deaths under one year of age* numbered 365, representing a death-rate of 1·9 per 1000 of the population at all ages.

*The Infant Mortality Rate* (i.e., the proportion of deaths under one year of age to every 1000 births) was 115·5

In the 76 great towns it averaged ... 128·75

This return for Norwich is a highly favourable one compared with the 76 towns. For last year the figures were 124·75 and 127·25 respectively. A special report differentiates the certified causes of death.

*The Death-rate between the ages of 1 and 5 years* was 0·9 per 1000 of the population of all ages; in 1907 it was 1·2.

*The Death-rate between the ages of 5 to 15* was 0·56 per 1000 of the population of all ages; in 1907 it was 0·59.

*The Death-rate between the ages of 15 and 25* was 0·59 per 1000 of the population of all ages; in 1907 it was 0·66.

*The Death-rate between the ages of 25 and 65 years of age* was 4·0 per 1000 of the population at all ages; in 1907 it was 4·2.



*The Death-rate at and over 65 years of age was 5·0 per 1000 of the population at all ages ; in 1907 it was 5·0.*

There were 14 more male than female children born in the city during the year. 155 of the births were those of illegitimate children. There were 30 deaths under one year of age of *illegitimate* children, or 193·5 per 1000 *births*—the rate among the *legitimate* children being 115·5 per 1000 births ; 76 stillbirths were notified to me during the year.

## NORWICH SPECIAL DEATH-RATES FOR 1908.

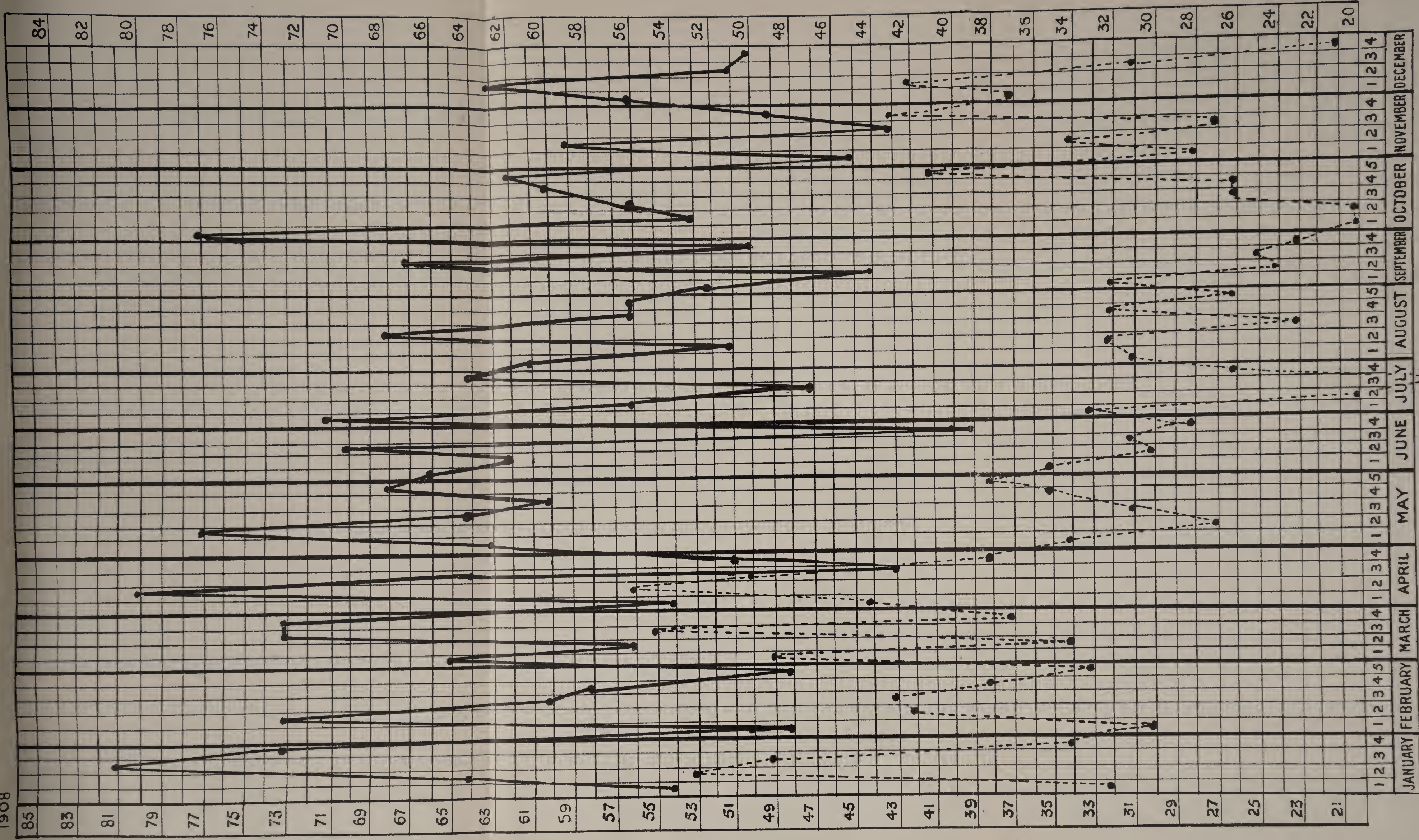
(The Registrar-General not having as yet issued his Annual Report, I am unable to give special rates for the 76 great towns.)

	Per 1,000 of the population at all ages. 1908.	In 1907.	In 1906.
From all Tuberculous Diseases ...	1·7	1·6	2·0
„ Tuberculosis of the Lungs (Phthisis) ...	1·1	1·1	1·2
„ Respiratory Diseases, excluding Phthisis ...	2·0	2·3	2·2
„ Heart Disease ...	1·6	1·5	1·7
„ Scarlet Fever ...	·03	·019	·093
„ Diphtheria... ...	·23	·38	·22
„ Enteric (Typhoid) Fever ...	·3	·12	·09
„ Puerperal Fever ...	·008	·02	·025
„ Erysipelas ...	·06	·05	·12
„ Measles ...	·008	·02	·83
„ Whooping Cough ...	·2	·36	·16
„ Diarrhœal Diseases... ...	·4	·5	1·5
„ Influenza ...	·2	·08	·16
„ Alcoholism ...	·10	·16	·14
„ Venereal Diseases ...	·03	·04	·04

The following Deaths occurred in *Public Institutions* :—Norfolk and Norwich Hospital, 144 ; the Union Infirmary, 124 ; the Isolation Hospital, 38 ; Jenny Lind Infirmary, 39 ; the Prison, 0 ; the Barracks, 0.



1908



GIBBS & WALLER, LITHO. NORWICH

V(6)

GROSS RECORDED NUMBER OF DEATHS FROM ALL CAUSES BLACK DASHES -----

.. .. BIRTHS .. .. BLACK LINE





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# INFANTILE MORTALITY DURING THE YEAR 1908.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year
All Causes.	Certified ...	69	20	14	10	113	49	38	21	21	23	22	19	9	18	14	11	358
	Uncertified ...	7	...	...	...	7	1	...	...	...	2	...	...	...	1	...	1	12
Common Infectious Diseases. (29)	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria : Croup ...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2
Diarrhœal Diseases. (151)	Whooping Cough ...	...	...	...	...	...	2	1	1	...	2	2	3	1	...	3	1	16
	Diarrhœa, all forms ...	...	...	1	...	1	10	5	4	5	3	2	3	1	4	1	1	40
	Enteritis (not Tuberculous)	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
	Gastritis, Gastro-intestinal Catarrh	1	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	2
	Premature Birth ...	46	9	4	2	61	4	1	...	...	...	...	...	...	...	...	...	66
Wasting Diseases. (165)	Congenital Defects ...	2	2	2	1	7	...	...	1	...	...	...	...	...	...	...	...	8
	Injury at Birth ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Want of Breast-Milk	4	...	...	...	4	...	...	...	...	4	...	...	...	...	...	...	8
	Anrophy, Debility, Marasmus	16	5	4	4	29	19	10	3	2	1	1	...	...	...	...	1	66
	Tuberculous Meningitis	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2
Tuberculous Diseases. (37)	Tuberculous Peritonitis : Tabes Mesenterica	...	1	...	...	1	...	2	...	4	2	6	2	1	2	2	...	22
	Other Tuberculous Diseases	...	...	...	...	...	...	...	1	1	...	...	2	1	1	...	...	6
	Erysipelas ...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
	Syphilis ...	...	...	...	...	...	1	2	1	1	...	...	...	...	...	...	...	5
	Rickets ...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	2
Meningitis (not Tuberculous)	Meningitis (not Tuberculous)	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
	Convulsions ...	5	...	1	2	8	4	8	4	3	3	2	2	1	...	3	3	41
	Bronchitis ...	...	2	2	1	5	3	3	2	3	3	5	2	2	2	2	2	34
	Laryngitis ...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
	Pneumonia	...	...	...	...	...	3	3	1	...	1	2	4	1	8	3	2	28
Suffocation, overlaying Other Causes	Suffocation, overlaying	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
	Other Causes	2	1	...	...	3	3	1	1	2	...	2	1	1	1	...	1	16
		76	20	14	10	120	50	38	21	21	25	22	19	9	19	14	12	370





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DIFFERENTIAL PARISH STATISTICS.

PARISH.	Area in Statute Acres.			Population at all ages.	Density of Population per Acre.	Deaths at all Ages.	Under 1 year.	1 to 5 years.	65 & upwards.	Deaths from Zymotic Diseases.	Deaths from Tuberculosis.	Gross Death Rate per 1000 of the Population at all Ages.
	A.	R.	P.									
All Saints with S. Julian	27	3	37	1962	70	20	3	1	13	1	4	10·7
S. Andrew ...	11	1	10	500	45·5	4	2	...	...	...	...	8·0
S. Augustine ...	21	2	27	2373	110	29	6	...	7	6	3	12·2
S. Benedict ...	18	2	38	1865	101	18	8	...	4	1	3	9·6
S. Clement (without) ...	220	3	35	7985	36	99	26	5	31	13	12	12·3
S. Clement (within) with S. Edmund	19	1	12	836	44	8	3	2	1	2	2	9·5
S. Etheldred with S. Peter Southgate	25	1	26	1694	67	20	2	...	12	2	...	11·8
S. George Colegate ...	16	3	15	1351	80	16	3	1	6	2	6	11·8
S. George Tombland ...	14	1	32	729	52	9	1	3	6	2	...	12·3
S. Giles' ...	22	3	18	1211	57	9	1	...	4	1	1	7·4
S. Gregory with S. Lawrence ...	14	3	15	963	64	8	1	...	1	...	1	8·3
S. Helen (with the Great Hospital)	19	1	35	541	28	24	1	...	22	...	...	44·3(a)
S. John Maddermarket ...	8	1	25	262	32	...	...	...	...	..	...	...
S. John Sepulchre ...	30	3	18	2732	90	38	10	...	13	3	8	13·5
S. John Timberhill ...	10	2	23	1015	100	9	5	...	2	...	4	8·8
S. James with Pockthorpe ...	408	2	3	9113	22·5	91	31	8	17	9	16	9·9
S. Margaret with S. Swithin ...	12	3	31	1114	85	16	5	1	4	...	3	13·4
S. Martin-at-Palace ...	12	0	23	584	48	12	1	...	6	1	2	21·0
S. Martin-at-Oak ...	29	1	35	2432	84	25	8	4	5	2	5	10·2
S. Mary-at-Coslany ...	12	1	8	1208	100	16	4	3	3	1	2	13·2
S. Michael-at-Coslany ...	12	0	0	647	54	6	1	1	...	...	3	9·2
S. Michael-at-Plea ...	5	1	36	106	21	2	...	...	1	...	...	18·8
S. Michael-at-Thorn ...	15	2	16	1406	90	23	4	1	13	1	3	15·2
S. Paul ...	42	3	6	5434	126	53	14	4	10	7	9	9·9
S. Peter-at-Hungate ...	3	0	33	258	86	4	...	...	2	...	1	15·5
S. Peter Mancroft ...	42	0	7	1557	37	25	1	1	13	...	3	16·0
S. Peter Parmentergate ...	49	1	15	2570	52	32	9	2	13	5	2	12·4
S. Saviour ...	14	1	20	1180	84	19	4	...	11	1	2	16·0
S. Simon and S. Jude ...	4	0	20	339	85	5	4	1	...	...	1	14·7
S. Stephen (with N. & N. Hospital)	56	1	23	3235	58	182	20	16	33	20	11	56·2(b)
Eaton (with Jenny Lind Infirmary)	1234	3	30	3152	2·5	76	27	18	12	17	12	24·1(c)
Earlham ...	1305	1	4	320	0·25	3	1	1	...	1	...	9·3
*Heigham ...	817	1	6	33015	40·5	588	95	36	260	70	55	17·8
Hellesdon (Hamlet of)	872	1	20	953	1·09	17	7	3	1	1	4	17·7
Thorpe Hamlet (with Brit. Barracks and Prison	751	0	7	6450	8·5	77	18	4	23	8	6	11·7
†Trowse, Carrow, and Bracondale...	125	1	34	3786	30	6	...	...	4	1	...	1·5
Cathedral Precincts (S. Mary-in-the-Marsh	47	1	5	451	9·5	4	2	...	...	1	...	8·8
Lakenham S. Mark ...	1102	1	9	6113	5·5	121	35	5	48	10	8	19·7
On Boats and Barges (Wensum) ...	...	...	...	...	...	...	...	...	...	...	...	...
Extra Parochial (liberty of Town Close ...	122	4	0	299	2·5	1	...	...	...	...	...	3·5
Catton ...	167	0	0	536	3·2	6	2	...	3	...	2	11·2
Sprowston ...	156	0	0	1456	9·3	18	7	1	8	2	2	12·3

(a) Deducting Deaths in Great Hospital, Death Rate for remainder of Parish was 5·5.  
(b) " " in Norfolk and Norwich Hospital, Death Rate for remainder of Parish was 15·1.  
(c) " " in Jenny Lind Infirmary, Death Rate for remainder of Parish was 12·3.  
\* Includes S. Bartholomew, S. Philip, Holy Trinity, and S. Thomas, Heigham.  
† Trowse S. Andrew, with Lakenham S. John the Baptist, and All Saints (part of).

Whole City—Density of Population per acre, 15·5. Gross Death Rate, 14·1.





List of Ecclesiastical Parishes in the City of Norwich, with the Number of Inhabited Houses and the Population enumerated in each at the Census of 1901.

	Population.	Inhabited Houses.	Number of Persons per House.
*Drayton, S. Margaret, with Hellesdon, S. Mary (part of)	950	203	4·7
†Earlham, S. Mary, with Bowthorpe, S. Michael (part of)	320	73	4·4
Eaton, S. Andrew	3,152	678	4·6
HEIGHAM:			
Holy Trinity	10,956	2,720	4·0
S. Bartholomew	11,584	2,570	4·5
S. Philip	5,350	1,377	3·9
S. Thomas	5,125	1,008	5·0
Lakenham, S. Mark	6,113	1,437	4·3
New Catton, Christ Church	7,985	1,779	4·4
NORWICH:			
All Saints with S. Julian	1,962	460	4·3
S. Andrew	500	114	4·4
S. Augustine	2,373	554	4·3
S. Benedict	1,865	443	4·2
S. Clement with S. Edmund	836	192	4·4
S. Etheldred with S. Peter Southgate	1,694	378	4·5
S. George of Colegate	1,351	324	4·2
S. George Tombland	729	131	5·6
S. Giles	1,211	288	4·2
S. Gregory with S. Lawrence	963	215	4·5
S. Helen	541	81	6·7
S. James with Pockthorpe	9,113	1,848	5·0
S. John de Sepulehre	2,732	594	4·6
S. John Maddermarket	262	71	3·7
S. John the Baptist, Timberhill	1,015	235	4·3
S. Margaret with S. Swithin	1,114	316	3·5
S. Martin at Oak	2,432	577	4·2
S. Martin at Palace	584	151	3·9
S. Mary at Coslany	1,208	293	4·1
S. Mary in the Marsh	451	78	5·8
S. Michael at Plea	106	29	3·7
S. Michael at Thorn	1,406	345	4·1
S. Michael Coslany	647	157	4·1
S. Paul	5,434	1,198	4·6
S. Peter Hungate	258	67	4·0
S. Peter Maneroft	1,557	308	5·0
S. Peter Permountergate	2,570	589	4·4
S. Saviour	1,180	307	3·8
SS. Simon and Jude	339	67	5·0
S. Stephen	3,235	715	4·5
Thorpe, S. Matthew	6,450	347	4·8
†Trowse, S. Andrew, with Lakenham, S. John the Baptist and All Saints (part of)	3,786	789	4·3
Extra Parochial (Liberty of Town Close)	299	61	4·9

\* The Parish of Drayton S. Margaret with Hellesdon S. Mary is partly in the Civil Parishes of Drayton and Hellesdon. The total number of Inhabited Houses was 371, and the Population 1984.

† The Parish of Earlham S. Mary with Bowthorpe S. Michael is partly in the Civil Parish of Bowthorpe. The total number of Inhabited Houses was 85, and the Population 382.

‡ This Parish is partly in the Civil Parish of Trowse Newton. The total number of Inhabited Houses was 951, and the Population 4,553.



*Inquest cases* amounted to 6·4 per cent. of deaths from all causes.

In the 76 great towns the average was 7·9 per cent.

*Deaths in Public Institutions* amounted to 19·8.

In the 76 great towns the average was 25·9 per cent.

*Uncertified deaths* (*i.e.*, death certificate not signed by a registered medical practitioner) amounted to 0·7 per cent.

Average in 76 great towns, 0·9 per cent.

7 of the deaths of infants were certified,—neither by a Medical Practitioner nor by the verdict of a Coroner's jury. All of these deaths occurred within the first week of life; assigned causes, "Want of Vitality," 1; "Convulsions," 1; and "Premature Birth," 5.

It is not creditable to the State, as the Guardian and Conservator of the prospective interests of the race, to lose a single subject without being furnished with a certificate of the cause of death, properly attested. The law now allows a Registrar, almost always a layman, to accept a certificate from an unqualified person, provided that he, the Registrar, is persuaded that deception is not being practised. The proper course is, without doubt, to hold an inquiry in every such case, and, where needful, a post-mortem examination. These steps will probably be taken only when the registration of the cause of death is placed under the control of the Sanitary Authority.

I caused enquiries to be made in 323 cases concerning the *number of children dying under one year of age who were insured*, and found that 40·2 per cent. of these were insured.

There were 18 inquests held upon children under one year of age by the Coroner or his Deputy, 3 of these children being illegitimate.

Of the 30 deaths of illegitimate infants, 3 were certified to be due to Diarrhœal Diseases, 5 to Wasting Diseases, 5 to Lung Diseases, 4 to Tuberculous Diseases, 3 to "Convulsions," 1 to Congenital Defects, 3 to Whooping Cough, 1 to Rickets, 1 to Stomatitis, and 4 to Premature Birth.



### ISOLATION HOSPITAL.

During the year 215 patients with Scarlet Fever, 304 with Diphtheria, and 156 with Enteric Fever were removed to and treated in the Hospital. In 1907 the corresponding figures were 211, 358, and 44.

Of the 675 cases removed to the Hospital, 308 were males and 367 females. In 1907 these proportions were 284 and 331 respectively.

With Scarlet Fever 57 of the patients were under 5 years of age.

„	„	107	„	„	between 5 and 10 years of age.
„	„	29	„	„	between 10 and 15 years of age.
„	„	16	„	„	between 15 and 25 years of age.
„	„	6	„	„	over 25 years of age.

With Diphtheria 64 of the patients were under 5 years of age.

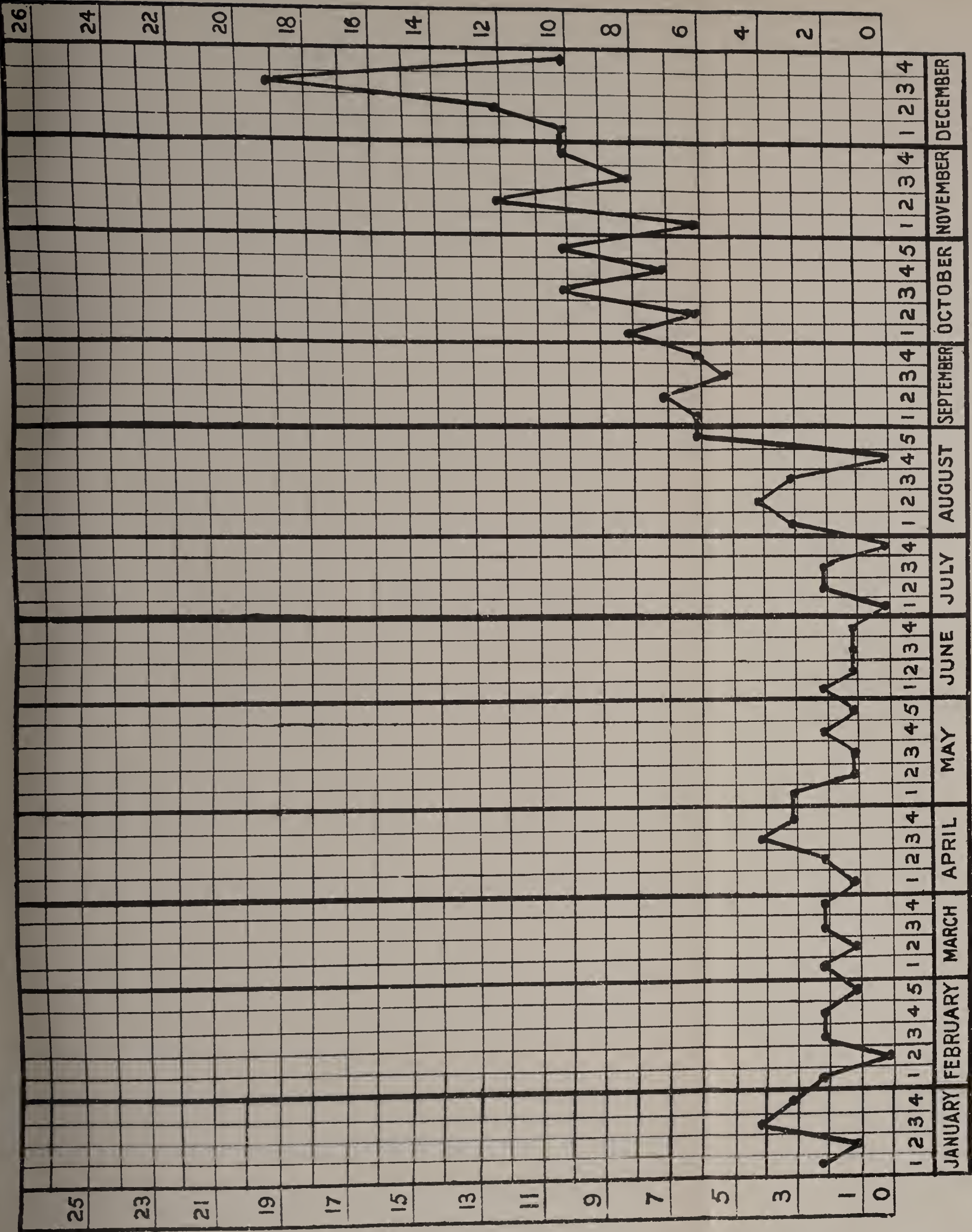
„	„	127	„	„	between 5 and 10 years of age.
„	„	58	„	„	between 10 and 15 years of age.
„	„	33	„	„	between 15 and 25 years of age.
„	„	22	„	„	over 25 years of age.

With Enteric Fever 4 of the patients were under 5 years of age.

„	„	18	„	„	between 5 and 10 years of age.
„	„	29	„	„	between 10 and 15 years of age.
„	„	45	„	„	between 15 and 25 years of age.
„	„	60	„	„	over 25 years of age.

Notifications of SCARLET FEVER

1908



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As in previous years the greatest number of patients were under 15 years of age.

There were 38 deaths in the Hospital during the year, 2 from Scarlet Fever, 20 from Diphtheria, and 16 from Enteric Fever. The total Hospital death-rate was 5·5 per cent. for all diseases, for Diphtheria 6·5 per cent., Scarlet Fever 0·9 per cent., Enteric Fever 10·2 per cent.

There were 10 "return" cases during the year, or 1·5 per cent.—a result which bears testimony to the vigilance exercised in discharging patients.

The mortality was due chiefly to the number of cases of Diphtheria which succumbed to paralysis of the heart, and to Shell-fish Typhoid.

The Wards were, as usual, kept bright and cheerful of aspect with flowers and plants throughout the year; presents from the friends and relatives of the patients, many of them quite poor people. The "Toy Fund," too, has been kept in tolerably sound condition chiefly by the donations of patients and their friends. The Hospital Committee made a special grant to provide toys at Christmas. The grounds about the Hospital continue to improve in appearance, and the garden to be fertile. Some 6750 articles passed through the steam disinfectors.

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### INFECTIOUS DISEASES.

**Scarlet Fever.**—224 notifications of Scarlet Fever in 199 dwellings were sent to me during the year. Of these notifications, 25 were secondary infections, *i.e.*, second or third cases in the same dwelling. The Chart gives a graphic representation of the prevalence, week by week, of the disease. I regard the occurrence of Scarlet Fever in a proportion over one case to every ten

thousand of the population a week, or, roughly, 12 cases a week, as constituting an "epidemic" condition of the disease.

Of the cases notified to me 49·7 per cent. occurred in males and 50·3 per cent. in females; 23·9 per cent. of the patients were under 5 years of age, 52·0 per cent. between 5 and 10 years of age, 16·7 per cent. between 10 and 15 years of age, 4·6 per cent. between 15 and 25 years of age, and 2·8 were over 25 years of age (75·9 per cent. of the cases occurred in children under 10 years of age).

From enquiries conducted specially I found that of the infected dwellings 2·5 per cent. possessed only *one sleeping room*, the average number of the occupants being 5·6 persons; 23·1 per cent. possessed *two sleeping rooms*, the average number of the occupants being 4·7 person per room; 61·8 per cent. possessed *three bedrooms*, the average number of the occupants being 3·5 persons per room; and 12·6 per cent. possessed *four or more bedrooms*, the average number of occupants being 2·8 persons per room.

As regards the disposal of excrement, 8·5 per cent. of the infected dwellings used "bins," 18·5 per cent. "pail" closets, and 73·0 per cent. water-closets.

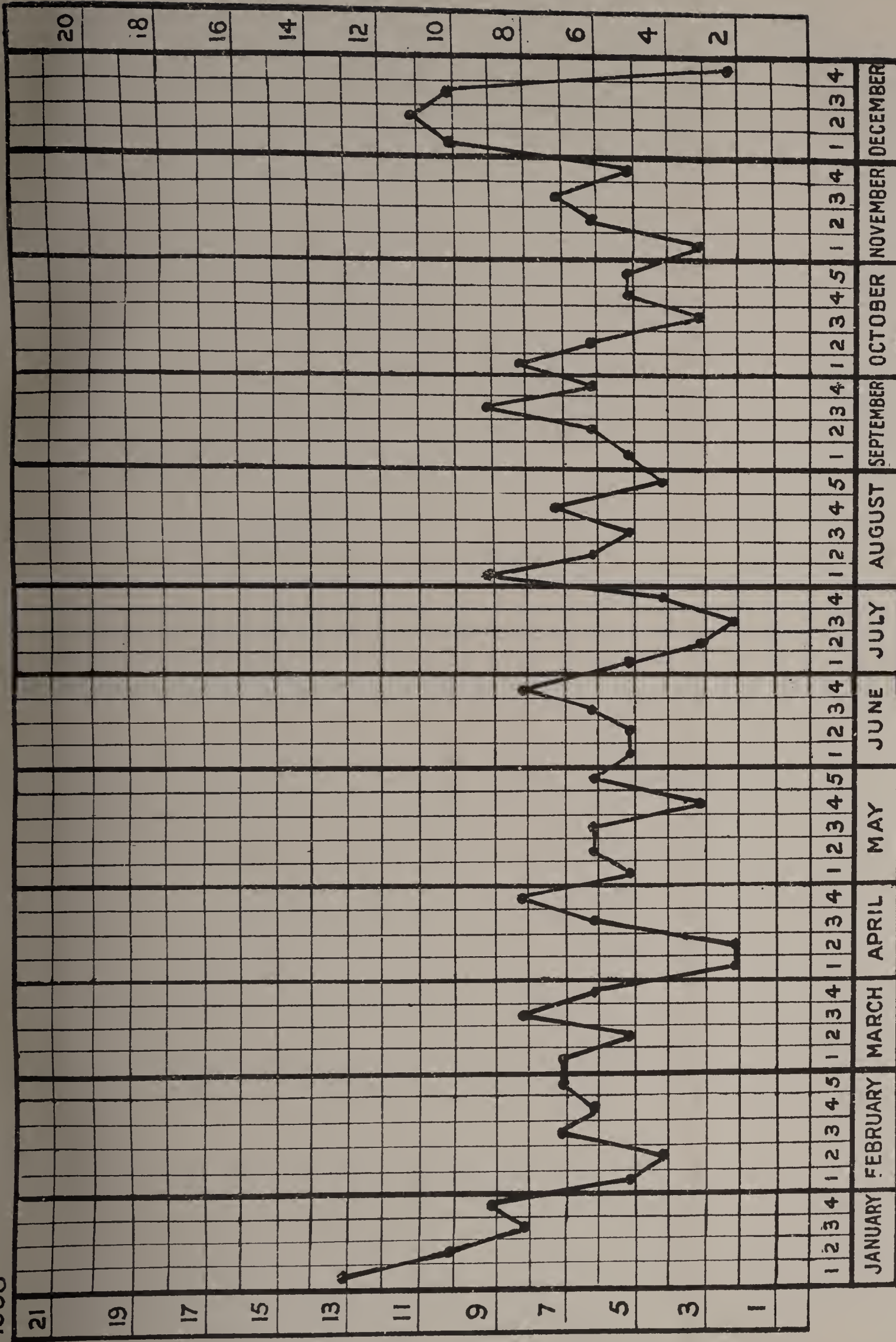
I was not able to trace Scarlet Fever to any special milk supply, and am disposed to think that a great majority of the cases owed their infection to personal contact. As to the origin of this disease, we are in greater doubt than is the case with other zymotic ailments, and so long as this uncertainty continues our operations for preventing those conditions from arising which favour its development will be *pari-passu* imperfect, and our practical work confined rather to dealing with effects than causes. I am inclined to think that *all the excretions of an affected person are infectious for a time, as well as the breath.*

**Diphtheria.**—384 notifications were sent in during the year, and deducting cases which proved on bacteriological examination



# Notifications of DIPHTHERIA

1908







not to be true Diphtheria, there were 356 victims to this disease. There were 29 deaths recorded during the year, 3 of the fatal endings occurred in the Norfolk and Norwich Hospital, and 20 in the Isolation Hospital. The special death-rate being 1 in 12 persons attacked. In 1907 it was 1 in 8.

The cases notified to me occurred in 359 dwellings—there being 25 *instances of secondary infection*, that is, more than one case occurring in the same dwelling, or 1 to every 14 primary cases. Of the persons attacked, 57·8 per cent. were females and 42·2 per cent. males.

23·4 per cent. of the patients were under 5 years of age, 37·5 per cent. between 5 and 10 years, 17·2 per cent. between 10 and 15 years, 12·7 per cent. between 15 and 25 years, 9·2 per cent. over 25 years of age (78·1 per cent. were in persons under 10 years of age).

Systematic enquiries into the home surroundings of the patients entitle me to state that 3·1 per cent. of the infected dwellings possessed *only one sleeping room*, the number of the occupants averaging 4·7; 33·1 per cent. of the houses possessed *two sleeping rooms*, the average number of the occupants (of each room) being 2·5; 50·0 per cent. of the houses had *three bedrooms*, the average number of occupants being 1·0; and 13·8 per cent. of the dwellings possessed *four or more bedrooms*, with an average population of 1·7 persons per bedroom. 15·6 per cent. of the affected households made use of “bins,” 19·3 used pail-closets, and 65·1 per cent. *water-closets*. In 11·0 per cent. of the houses there was evidence of persistent *dampness* commonly of the walls or flooring, and due to the *absence of a “damp course”* in the former, and of a layer of concrete below the latter. I caused special enquiries to be made concerning the character of the paving, etc., of the yards adjacent to the infected dwellings, and found that 71·4 per cent. had yards covered with some *material*

*impervious to fluids*; that 3·8 per cent. had yards partly paved, 7·5 per cent. cobbled yards, and 17·3 per cent. yards *without any paving at all*. In other words, 28·0 per cent. of the houses *adjoined yards offering greater or lesser facilities for the soakage of fluid into the soil about them*. 25·0 per cent. of the houses possessed no sinks, which means that *all household "slops," etc., and other waste fluids would be pitched into and about the gutter in the yard*.

The Chart exhibits the variation in the prevalence of Diphtheria week by week throughout the year. I retain my belief that any condition of the atmosphere or of the surroundings which tends to produce a congested condition of the tissues lining the throat—such as damp, foggy weather, particularly when associated with low barometric pressure, which leads to engorgement and relative congestion of the superficial vessels; or any irritating influence such as the noxious effluvia constantly given off by the contents of "bins," "pail-closets," sewer air, collections of refuse, etc.—distinctly favours the development of Diphtheria.

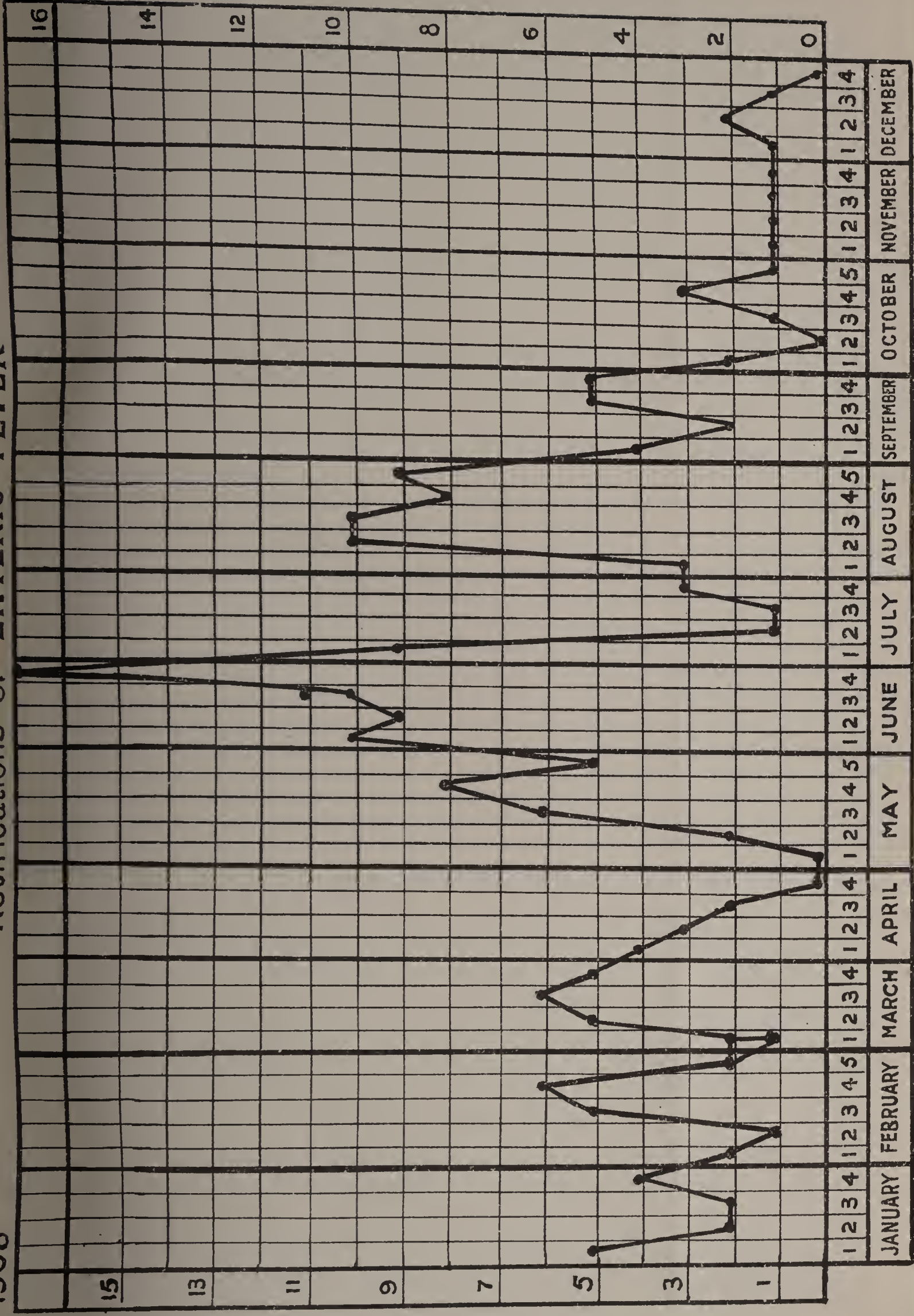
**Enteric (Typhoid) Fever.**—216 cases of Enteric Fever occurred during the year, 11 of them being secondary infections. As the relative prevalence of this disease is a commonly accepted criterion of the sanitary condition of a district, its associations and surroundings become of special interest; and the importance of the subject justifies a more detailed account than is requisite in dealing with other diseases; the more particularly as Enteric Fever has been rather *endemic* than *epidemic* in its character with us. The association of shell-fish with this disease in 1908 has been noticed in the preface.

The following table gives the notifications of Enteric Fever in each year from 1880 to 1908 inclusive, and the mortality from the disease. There were 36 deaths registered in 1908, 22 of them in Public Institutions.



1908

Notifications of ENTERIC FEVER





180	{ notifications of Enteric F. in }	1880 with 37	{ deaths representing a mortality rate of }	20·5%
50	„	1881 „ 15	„ „ 30·0	„
47	„	1882 „ 8	„ „ 17·4	„
34	„	1883 „ 11	„ „ 32·3	„
121	„	1884 „ 30	„ „ 24·8	„
584	„	1885 „ 92	„ „ 15·5	„
262	„	1886 „ 39	„ „ 14·5	„
136	„	1887 „ 20	„ „ 14·7	„
171	„	1888 „ 19	„ „ 11·1	„
166	„	1889 „ 22	„ „ 13·2	„
176	„	1890 „ 31	„ „ 7·6	„
163	„	1891 „ 21	„ „ 12·8	„
106	„	1892 „ 19	„ „ 17·9	„
314	„	1893 „ 36	„ „ 11·4	„
150	„	1894 „ 22	„ „ 14·6	„
226	„	1895 „ 24	„ „ 10·6	„
196	„	1896 „ 20	„ „ 10·2	„
234	„	1897 „ 33	„ „ 14·0	„
259	„	1898 „ 48	„ „ 18·5	„
144	„	1899 „ 20	„ „ 14·0	„
193	„	1900 „ 12	„ „ 7·4	„
127	„	1901 „ 15	„ „ 11·8	„
57	„	1902 „ 5	„ „ 8·7	„
92	„	1903 „ 5	„ „ 5·4	„
111	„	1904 „ 15	„ „ 13·5	„
53	„	1905 „ 9	„ „ 17·0	„
89	„	1906 „ 11	„ „ 12·3	„
87	„	1907 „ 14	„ „ 16·0	„
216	„	1908 „ 36	„ „ 16·6	„

It will be noticed that the death-rate in 1880 from this disease averaged 20·5 per cent. of the cases notified, or, roughly, 1 case in every 5, and that last year the death-rate was 1 case in every 6. As I pointed out in previous reports, it does not follow necessarily that these figures represent the true state of the facts; that there has been, on the whole, a diminution in the cases of mortality cannot be doubted—but it must be remembered that most probably a number of the milder cases of the disease were not recognised and notified in 1880. Increasing skill in diagnosing the disease in its lighter forms has, in my judgment, led to a more accurate correspondence between the number of notifications sent in and the actual amount of the disease; although I still think that a



number of cases of Enteric Fever of what is known as the "Ambulatory" type escape notification, and never receive medical treatment. So that here, as elsewhere, the notifications furnish a reliable guide to the relative prevalence of the disease, but must not be regarded as representing accurately the full amount. By "Ambulatory" Typhoid is meant so mild an attack that the patient keeps walking about pursuing his or her ordinary vocation in life, never ill enough to need a doctor, having some feeling of malaise and what is thought to be some transient diarrhœa.

Differentiating some characteristics of the cases notified in 1908, and comparing them with those notified in 1907, 1906, 1905, I find that as regards

- (a) Sex. 56·4 per cent. of the cases occurred in males and 43·6 per cent. in females; the average percentages of the preceding three years were 48·5 males and 51·9 per cent. females. Females are commonly more home-keeping in their habits than the males, on the other hand, the latter expose themselves to more extended means of infection, and last year were more frequently casual purchasers of shell-fish from stalls, etc.

- (b) Age.

						Average percentage of the preceding three years.
4·8	{ per cent. of the patients were under 5 years of age }					5·1
10·5	,, ,,		between 5 and 10			12·3
16·3	,, ,,		,, 10 ,, 15			15·6
16·6	,, ,,		,, 15 ,, 20			14·9
14·0	,, ,,		,, 20 ,, 25			18·1
20·6	,, ,,		,, 25 ,, 35			17·1
10·5	,, ,,		,, 35 ,, 45			9·4
6·7	,, ,,		,, over 45			6·6

It will be noticed that 31·6 per cent. of the cases occurred in children under 15 years of age, and that the average number of such cases in the preceding three years was 39·9 per cent. of the total number.

## (c) Crowding.

					Average number of occupants per bedroom.
5.8	{ per cent. of the affected dwellings had only 1 bedroom }				4.0 persons
22.4	„	„	„	2 „	2.4 „
56.6	„	„	„	3 „	1.2 „
15.2	„	„	„	4 or more	1.2 „

The average corresponding percentage of the preceding three years were—1 bedroom, 5.5 per cent.; 2 bedrooms, 27.6 per cent.; 3 bedrooms, 52.3 per cent.; 4 or more bedrooms, 15.4 per cent.; the relative crowding being 3.7, 2.4, 2.1, and 1.3 persons *per room*. In estimating the influence of “man-crowding,” I have only concerned myself about the number of sleeping-rooms, the rooms in which crowding becomes important. The census returns are helpful here only in respect of tenements consisting of one room, which room must, of necessity, be used for bed and living-room; and when it is remembered how large a proportion of these are occupied by one old man or woman living alone, the incidence of the disease in houses containing one bedroom probably is much heavier than the figures represent.

## (d) Water supply.

97.8 per cent. of the affected dwellings were supplied with the Company's water.

2.2 per cent. of the affect dwellings were supplied from wells.

Of the preceding three years the (averaged) corresponding proportions were 96.8 and 3.4 per cent.

The proportions in which houses are supplied with “pipe” or with well water are altering quietly but *continuously*; each year sees an increase in the number of houses supplied by the Company, and a decrease in the number of those drawing water from wells. I believe that at the present time over 98.0 per cent. of the houses are supplied by the Company with water. 6 wells were closed during the year, the water drawn from them being shown, by

chemical analysis alone, to be unfit for drinking purposes. The recurrence of Typhoid makes it necessary for us to take every possible precaution with regard to water. The Water Company expend great care upon the filtration and storage of the water it supplies to the citizens, and has it chemically and bacteriologically examined at regular intervals, and short of the demonstration by bacteriological experts of the specific bacillus of Enteric Fever being distributed by the Company with the water it abstracts from the Wensum, I see no sufficient reason for dissenting from the opinion expressed by the Official Analysts that it is "a perfectly safe water for dietetic use."

(e) Milk supply.

Corresponding (averaged)  
proportions in the pre-  
ceding three years.

9.4 per cent. of the patients drank no milk	6.0
8.8 per cent. of the patients drank it in the raw, uncooked condition...	13.8
63.2 per cent. of the patients drank it only, when first boiled or cooked in puddings or in hot tea, etc. ... ..	75.7
9.7 per cent. of the patients used condensed milk ... ..	3.9

Milk, I think, had, as in preceding years, little to do with propagating Enteric Fever amongst us; its influence, anyway, must have been limited, for practically it is likely only to be a direct source of infection in 9.0 per cent. of the cases among the drinkers of the *uncooked* article. At the same time I am bound to say that, but for the fairly general cooking of the milk consumed among us, we are practically at the mercy of the surrounding districts; so large a portion of our supply comes from outside the City. The appointment of a Medical Officer of Health for the County of Norfolk will aid us materially in promoting concerted action between the City and the County Sanitary Authorities in the matter of milk supplies. A noticeable feature in this year's statistics is the increase in the users of condensed milk.



(f) Shell-fish. The association of this article of diet with Enteric Fever in 1908 is specially referred to in the preface.

(g) Disposal of excrement.

12·7 per cent. of the affected dwellings used "bins."

19·3                   "                   "                   "                   pail closets.

68·0                   "                   "                   "                   water closets.

In the preceding three years the corresponding (averaged) percentages were 23·2 per cent. "bins"; 24·3 pail closets; 51·16 water closets. It is much to be regretted that the power of the Sanitary Authority to enforce the provision of water carriage is restricted so seriously, as under the existing law, unfortunately, it is. Unless the Health Committee decide, in each particular instance, that there is insufficient accommodation, it cannot enforce the provision of a water closet (*which it always recommends*), except in the now rare circumstance of the excrement having to be removed *through a dwelling*; in which case water closets are insisted upon always. At the present time I estimate the number of houses provided with water closets at 70·0 per cent. of the total number.

(h) Household drainage.

At 79·0 per cent. of the affected houses the Inspectors reported the drainage as "good." In the preceding three years the corresponding (averaged) percentage was 70·0 per cent.

Which means that in the others, some defect in the drainage such as no sink (which again means that all slop and other waste water would be pitched about the yard), sink waste-pipe not disconnected, or loose and defective "traps," etc., existed.

(i) Character of yard.	Average of the preceding three years.
None of the affected dwellings had no yard	0.6
64.7 per cent. of the dwellings had paved yards      ...      ...      ...      ...      ...	57.5
16.3 per cent. of the dwellings had <i>unpaved yards</i> ...      ...      ...      ...	21.1
9.5 per cent. of the dwellings had <i>partly paved yards</i> ...      ...      ...      ...	8.1
9.5 per cent. of the dwellings had <i>cobbled yards</i> ...      ...      ...      ...      ...	11.2

In other words, 35.0 per cent. of the dwellings had yards more or less liable to have the *subsoil soddened with moisture and impurities*. I have drawn attention repeatedly to the importance of having the soil which adjoins a dwelling covered with some material *impervious to fluids*, else it cannot be kept dry. A large number of the poorer dwellings in this City have no properly constructed "damp course" in the walls, and, in addition, have not had a thick layer of concrete laid under the bottom floors; in such cases moistening of the subsoil must lead to dampness in the dwelling, to say nothing of the deleterious ground air which will be forced upwards by the rising of the ground-water from time to time; and always be more or less sucked into the dwelling, owing to its atmosphere being warmer.

(i) Food store. 7.9 per cent. of the affected dwellings had food stored *in a ventilated receptacle*; and 5.4 per cent. of the dwellings had *the household food stored in an unventilated receptacle (i.e. having no communication with the external air)* in some part of the house, other than the living-room; and in as many as 83.2 per cent. of the dwellings the food was stored *in some unventilated receptacle in the actual living-room*; and 3.5 stored it in a ventilated receptacle in the living-room. In the preceding three years the food store was some unventilated receptacle *in the actual living-room* in 84.4 per cent. of the affected dwellings.

It is worthy of notice that in 89·0 per cent. of the affected dwellings the food was stored in the living-room, and therefore in *an atmosphere more or less stale and impure*. Without assuming a direct connection between such food and a disease like Typhoid, it will be obvious that articles of food, such as milk, butter, bread, etc., kept in such surroundings become contaminated easily with impurities.

(k) Nearness to sewer gratings and gullies.

17·0 per cent. of the affected dwellings were				Average of three preceding years.
within 20 ft.	...	...	...	22·0
26·4 per cent. of the affected dwellings were				
within 40 ft.	...	...	...	28·5

The remainder were over 40 ft. These measurements were taken because a stench from a grating or gulley has been charged with occasioning Typhoid so constantly by people living near; my own belief is *that pollution of the neighbouring air with sewer gas lowers the resisting powers of the body*, and thus causes those exposed to so deleterious an influence to fall more easily a victim of disease. I am of opinion that the emanations from collections of excrement in "bins" and pail-closets, and from heaps of decaying refuse, act in the like manner as powerful predisposers to disease.

(l) Occupations of house-holders, &c.

Architect, 1; assistants (shop), 4; Bookbinders, 1; boxmakers, 4; butchers, 1; bootwork, 25; brushwork, 1; carmen, 3; carpenters, 6; cashiers, 2; cellarmen, 3; chambermaid, 1; confectioners, 4; clerks, 4; dealers, 1; dressmakers, 7; footballer (pro.), 1; French polishers, 3; gardeners, 3; housewives, 27; hawkers, 4; iron moulder, 1; labourers, 14; plasterers, 2; plumbers, 3; portress, 1; printers, 3; solicitors, 1; engineers, 7; scholars, 44; soldiers, 1; tinsmiths, 3; tailoress, 4; upholsterers, 1; warehousemen, 3.



(m) Secondary cases.

In 9 dwellings more than one member of the household contracted the disease.

**Puerperal Fever.**—Four notifications of this dangerous child-bed fever were sent in during the year; there was one fatal case. Supposing the notifications to represent all the cases which occurred, the death-rate, 25·0 per cent. was a lower one, the average death-rate for the preceding three years having been 69·6 per cent. of the notified cases. Puerperal Fever being a preventible disease, we were entitled to look for a diminution in the mortality from it. I forbid the nurse or midwife in attendance to go to another confinement for a period, and then only after a thorough cleansing and disinfection of her clothing and person, and, as far as possible, dwelling. The Medical Practitioners in the City I have found anxious to adopt all reasonable precautions, the chief being a temporary abstention from obstetric practice. Rigorous antiseptic precautions in obstetric practice furnish the best means of preventing the development of the disease, and as our midwives have now to be registered and are trained more scientifically, we may look justifiably for a steady lessening of Puerperal fever; more particularly as parturient women themselves come to understand the vital importance of scrupulous cleanliness being observed by themselves, their attendants, and in all the surroundings. The Midwives Act should enable us to maintain a more vigorous control over this disease, particularly after 1910, when certain of its provisions come into force.

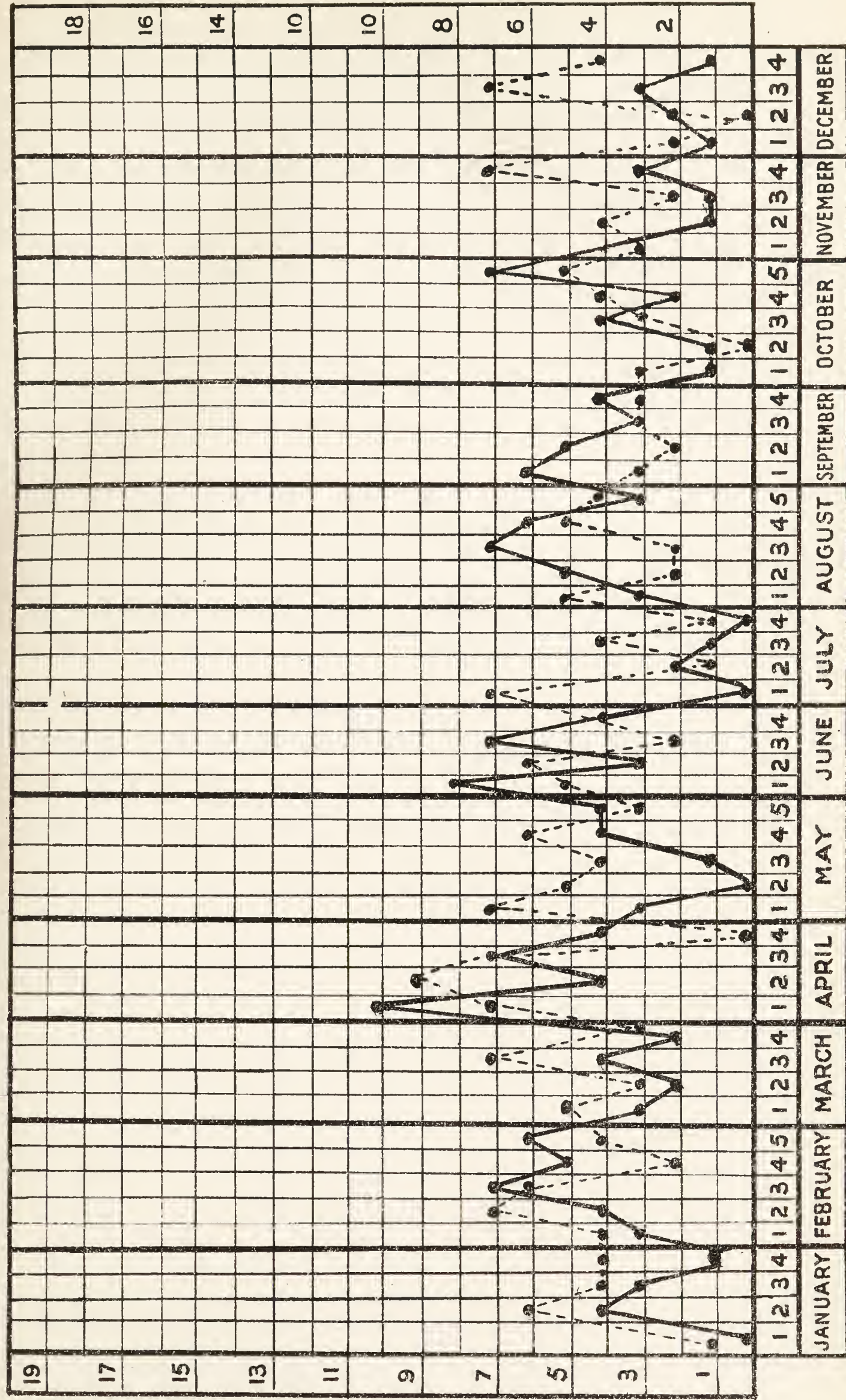
**Erysipelas.**—Sixty-one cases were notified to me. Twelve deaths were registered from it. In 1907 the figures were 74 and 6 respectively. There was more Erysipelas of a fatal type, but it cannot be regarded as having been prevalent in the City.

**Measles.**—Measles was not notified during the year, and only 1 death was attributed to it. This is a dangerous disease, particularly on account of its liability to set up lung complications; and, on account of its lengthy incubative period and infectivity, is a



Deaths from Zymotic Diseases, Black Line  
Deaths from Tuberculous Diseases, Black Dashes,-----

1908







Total Tenements and Tenements of less than Five Rooms, distinguishing those Occupied by Various Numbers  
of Persons in the County Borough and City of Norwich and its Constituent Wards, 1901.

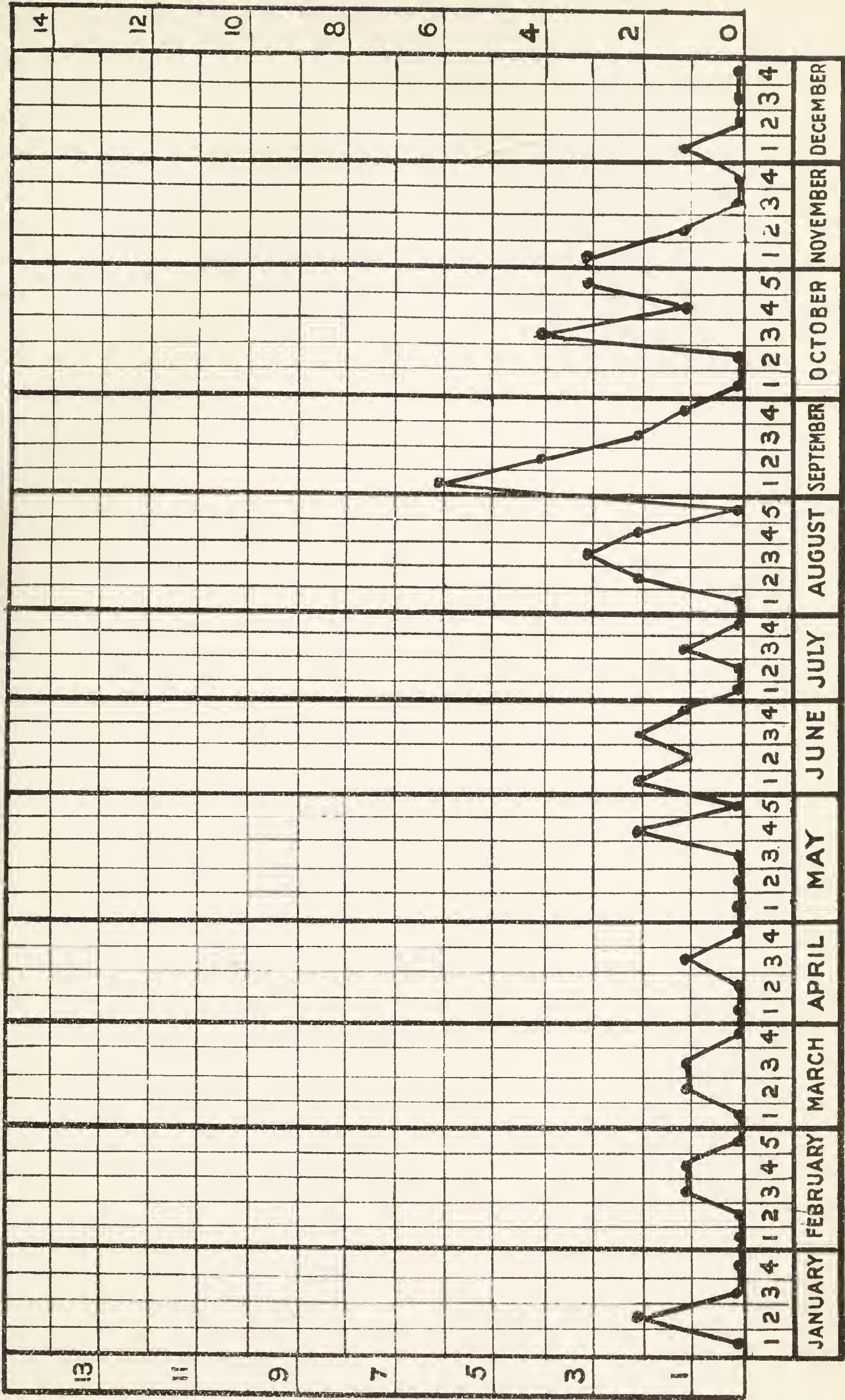
WARDS.	Total Tenements.	No. of Rooms in each Tenement.	NUMBER OF OCCUPANTS IN EACH TENEMENT.												No. of Tenements of less than Five Rooms.
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12. or more.	
NORWICH, CITY OF	25585	1 2 3 4	231 470 197 186	98 490 440 702	12 229 365 713	10 138 245 577	4 101 178 461	4 34 123 406	... 17 97 251	... 4 35 144	... ... 30 90	... 1 9 33	... 1 4 12	... ... 1 7	359 1485 1724 3582
No. 1 or CONESFORD	1298	1 2 3 4	16 37 18 4	12 26 34 23	1 15 33 22	1 8 18 14	1 1 14 12	1 1 13 16	... 3 9 7	... ... 4 7	... ... 2 3	... ... 1 ...	... ... 1 ...	... ... ... ...	32 91 147 108
No. 2 or BER STREET	1868	1 2 3 4	12 54 21 24	8 53 31 84	1 15 46 82	1 17 19 66	... 21 22 56	... 9 11 53	... 1 14 39	... ... 5 11	... ... 5 16	... ... 1 5	... ... ... 5	... ... ... 1	22 170 175 442
No. 3 or MANCROFT	842	1 2 3 4	7 38 19 11	2 28 31 17	... 5 21 21	... 1 15 16	... 2 10 9	... ... 3 6	... ... 7 8	... ... 1 4	... ... 3 1	... ... ... 1	... ... ... ...	... ... ... ...	9 74 110 195
No. 4 or WESTWICK	1406	1 2 3 4	50 51 17 19	12 50 38 64	1 20 29 52	1 13 17 34	... 10 14 33	2 1 12 27	... ... 10 11	... ... 6 15	... ... 1 4	... ... 1 1	... ... ... ...	... ... ... ...	66 145 145 260
No. 5 or COSLANY	1561	1 2 3 4	52 50 32 10	34 68 73 70	4 44 52 56	3 28 45 56	2 20 35 52	... 5 22 32	... 5 16 29	... ... 5 17	... ... 9 13	... ... 3 5	... ... 1 2	... ... 1 ...	95 221 294 342
No. 6 or FYE BRIDGE	1798	1 2 3 4	42 85 19 11	10 114 57 45	1 53 65 48	1 33 51 58	... 23 31 40	... 8 21 39	... 4 17 28	... 2 10 14	... ... 4 8	... ... 1 4	... ... 1 ...	... ... ... 1	54 322 277 296
No. 7 or THORPE	1408	1 2 3 4	3 20 5 5	1 8 13 25	1 14 7 18	... ... 6 30	... 2 8 21	... 1 5 15	... ... 3 7	... ... ... 7	... ... ... 2	... ... ... 1	... ... ... 2	... ... ... ...	5 45 47 134
No. 8 or LAKENHAM	1344	1 2 3 4	3 16 11 25	... 16 20 83	... 2 18 102	... 5 15 88	... 1 9 56	... ... 5 48	... ... 3 30	... ... ... 19	... ... ... 12	... ... ... 3	... ... ... ...	... ... ... ...	3 40 82 466
No. 9 or TOWN CLOSE	1459	1 2 3 4	3 20 9 18	... 23 33 73	... 14 19 87	... 4 5 62	... 2 2 56	... ... 4 49	... ... 2 24	... ... 1 8	... ... ... 4	... ... ... 3	... ... ... 1	... ... ... 1	3 63 75 386
No. 10 or EATON	2469	1 2 3 4	2 12 ... 1	... 5 3 9	... ... 1 18	... 1 6 9	... ... ... 5	... ... ... 6	... ... ... 2	... ... ... 4	... ... ... ...	... ... ... 1	... ... ... ...	... ... ... ...	2 18 10 55
No. 11 or NELSON	1496	1 2 3 4	2 18 12 23	2 11 22 79	... 3 15 60	... 2 3 51	... 1 5 29	... 1 ... 22	... ... 1 20	... ... ... 8	... ... 1 5	... ... ... 1	... ... ... ...	... ... ... ...	4 36 59 298
No. 12 or EARLHAM	1384	1 2 3 4	2 3 5 6	... 2 5 17	... 1 2 20	... ... 1 15	... 1 ... 7	... ... 2 3	... ... ... 1	... ... ... 2	... ... ... ...	... ... ... ...	... ... ... ...	... ... ... ...	2 7 16 71
No. 13 or HEIGHAM	1472	1 2 3 4	5 7 2 3	... 7 2 21	... 3 2 15	... 1 ... 3	... 2 ... 8	... ... ... 7	... ... ... 2	... ... ... 1	... ... 1 3	... ... ... 2	... ... ... ...	... ... ... ...	5 20 7 65
No. 14 or WENSUM	1568	1 2 3 4	11 24 10 15	... 32 23 38	... 14 13 46	... 9 21 31	... 6 4 35	1 2 10 32	... ... 5 13	... ... 2 12	... ... 1 9	... ... ... 4	... ... ... 1	... ... ... 1	12 87 89 237
No. 15 or CATTON	2195	1 2 3 4	8 13 13 10	4 21 36 44	1 7 30 51	... 4 13 29	... 1 17 32	... ... 8 41	... ... 6 19	... 2 ... 10	... ... 1 6	... ... 2 1	... ... ... ...	... ... ... ...	13 49 127 245
No. 16 or MOUSEHOLD	2017	1 2 3 4	13 22 4 1	13 26 19 10	2 19 12 15	3 12 9 15	1 8 6 10	... 5 7 10	... 4 4 11	... ... 1 5	... ... 2 4	... ... ... 1	... ... ... ...	... ... ... ...	32 97 64 82





DEATHS from DIARRHOEA during the Year

1908







source of administrative trouble to all concerned with the control and management of schools. As a weapon of defence against the spread of Measles in *towns* I think the closing of schools has limited value; what notification is most value for is the number of sanitary defects in and about the affected dwellings which can be brought to our notice; and the opportunities that are afforded to bring about an alteration in the attitude of mind assumed by many of the mothers of families in Norwich towards this highly dangerous infective disease, and the criminality of carelessness in dealing with it. In 1907 three, and in 1906 ninety-nine deaths were registered as being due to this disease.

**Whooping Cough** proved fatal to 29 children last year. This is a result for 1908 which is more satisfactory than that for the preceding year, when 43 deaths from the disease were registered. This disease is highly infectious, and dangerous too. I gain information of its prevalence among children attending the schools only by indirect methods, and of its fatality from the death certificates.

**Diarrhœal Diseases** carried off 49 persons, 45 of whom were *under 5 years of age*, the greater number succumbing (as is customary) in the third quarter of the year. In 1907 there were 66 deaths from these diseases. I attribute the prevalence of and mortality from these diseases to *bad feeding, and particularly to carelessness in the treatment and storage of milk and other food, to flies, and to soil and air pollution, due to the retention of filth upon the premises.*

**Influenza.**—24 deaths were certified to be either directly or indirectly due to this disease; in 1907 the number of deaths ascribed to it was 10.

**Cancer.**—149 deaths were attributed to malignant growths during the year; in 1907 the number was 157.

**Septic Diseases** (other than those specified) caused the deaths of 40 persons; in 1907, 48.

## THE TUBERCULOUS DISEASES.

(Forms of the disease called commonly "Consumption.") 142 deaths were certified to be due to tuberculous disease of the Lungs (Phthisis) and 70 to other forms of tuberculous infection; making in all a total of 212 *deaths from the tuberculous diseases*. This is below the average for the preceding fifteen years, which average amounts to 230 *deaths from the tuberculous diseases per annum*. Nothing but benefit to the healthiness of our community can result from the general apprehension of the fact that the tuberculous diseases are dangerous—the phthisical type particularly. I feel that I have done well in insisting, as for many years I have done, upon the dangers to the community of these *catchable and largely preventible diseases*. The chart shows the weekly fluctuations in the tuberculous death-rate throughout the year; and it will be worth the reader's while to compare this chart with the charts of the fourteen preceding years. The returns for the fifteen years confirm the fact that the *tubercle bacillus* (the micro-organism of whose pernicious activity these diseases furnish us with reliable information) is no stranger among us. It flourishes practically wherever people are crowded together, and may be said to be entrenched in all old cities. This lethal bacillus, which has cost, and is still costing us, as a nation, directly or indirectly, millions of money, and goes on reaping its untimely harvest of lives year after year, is most at home in dark, ill-ventilated places, and is much favoured by overcrowding in any dwellings. *Sunlight and fresh air, fortunately, are destructive to it*; which fact helps to explain why sanitary experts claim that every dwelling shall have good *air space, and freedom for admission of sunlight into and about it*.

In 1893 I first offered to disinfect gratuitously the rooms, which had been occupied by a tuberculous patient, after the removal by death, or otherwise, of the victim of the *tubercle bacillus*; and there has been a really remarkable growth of opinion on the part of the public that it is a *wise step to have rooms, etc., disinfected after a death has occurred from tuberculous diseases*; and one can only hope that the practice will become general. I hope also that the



members of the medical profession will recommend disinfection to the friends of their patients in all cases of death, or of removal. It is, at any rate, encouraging to find that, within 10 years, the relatives of more than nine-tenths of the fatal lung cases consented to have this precautionary measure adopted *for the protection of the other inmates of the dwellings*.

The *tubercle bacillus* is *coughed up* constantly in large numbers *with the spittle* of consumptive people, and this same bacillus is present commonly in the discharges from tuberculous glands, abscesses, &c. Should hæmorrhage occur, the specific bacilli will pretty certainly be carried out with the blood. Hence the importance of either rigidly disinfecting (boiling is a good method) or burning any rags, clothes, &c., soiled with the blood or expectoration. For if the extruded matter be left to dry, it will, in time, become fine dry dust; which dust may be kicked or brushed up into the air, and as it contains the potentially active bacilli, it may be the means of introducing these into the bodies of others; or the expectorator of the infective material may, in this way, infect his own and other's food, and re-infect himself. It is not only a piece of enlightened self-interest on the part of a consumptive to take care that all expectorated matter is disinfected rigidly, or, what is better, burnt promptly, but it is also his imperative duty to minimise the risk to his fellows by so doing. It is *what a consumptive coughs up* that is to be feared: not his mere breath—one may sit, for example, in the same room with him, if it be well ventilated, and his habits are cleanly, without practical risk. Spitting about in public-places and vehicles becomes, when the spitter is a consumptive, in addition to being a disgusting habit, a dangerous one as well; a habit that should be discouraged rigorously, alike in the interests of decent manners and of the general health. A consumptive can always carry a damp rag with him, which rag he can burn easily.

Unfortunately, a very large number of people inherit a predisposition, that is a heightened liability to fall victims to tuberculous disease, and many others favour the development of the disease in

themselves, through lowering their general tone by living amid surroundings of a depressing character, such as *ill-lighted, dusty, and badly-ventilated* shops, work-rooms, houses, and offices. A person enjoying fairly good health may, and probably does, take in tubercle bacilli from time to time with his food and air; but commonly the resisting power of his tissues is able successfully to cope with the invaders; the person, however, whose health is below par, and whose tissue-resistance is infeeblled, such an one all too frequently succumbs—and the onset is so insidious that the bacilli may gain a firm hold before the mischief is noted. The great general preventatives of consumption are *good food, sunlight, and fresh unbreathed air*. There are grounds for believing that pulmonary tuberculosis is due more often than is supposed to transference of infection from the alimentary tract. When a member of a household has fallen a victim to one or the other of the tuberculous diseases, it is not necessary to treat him as a social leper. If precautions be taken to prevent *anything he coughs up* from ever drying, and if the rooms occupied be ventilated effectively, he may share the ordinary family life. He should, however, sleep in a bed by himself, and, where practicable, *in a separate room*; this room should be as large as possible, and the consumptive should early acquire the habit of *keeping the windows always OPEN*, supposing, as is commonly the case, there is no other means of admitting fresh air. Of course, the proper way of securing adequate ventilation is to make arrangement *altogether unconnected with the window*; perhaps the simplest, and certainly one of the best means of doing this, is to insert a grating at *the floor level* in the external wall, delivering, if possible, *fresh air under the bed* (by means of a simple valve the incoming air can be directed upwards to the bottom of the bed); the atmosphere of the room will then always keep refreshing and healthsome, whether the window be closed or not. If such fresh air grating be *not* provided (the expense of inserting one is trifling), then if the window-frame reach low down, say to within 18 ins. of the floor, let it be kept open *at the bottom*; if the lower edge of the window be, as it most stupidly usually is, about 3 or 4 ft. from the floor, place an accurately fitting piece of board



under the lower sash, so as to leave a vertical aperture between the sashes of not less than 3 ins. in depth. Failing all these, open the window *at the top*. In towns the air may be rendered more acceptable to the irritated lung tissues by causing it to pass through a screen of stretched flannel, which will filter out effectually from the air particles of dust, "blacks," &c. *Under no circumstances is it prudent to turn the room into a practically closed box.* Let the bed clothing be warm and light, *e.g.*, *ventilated* eiderdown quilts. With good air, cold never need be feared. I do not believe that moisture is detrimental to a consumptive, but I believe that the lowered barometric pressure which usually accompanies it is, by leading to the engorgement and relative congestion of the superficial vessels. The important point is to keep a consumptive irrigated constantly *with unbreathed air*. It is when the bacillus-riddled victim of tuberculous disease becomes too weak to attend to himself carefully that the great risk of infecting his bedding, &c., and room occurs, and hence the sensibleness of having these carefully disinfected, after pale Death have entered with equal foot, whether it be into the hovels of the lowly or the halls of the great.

Tuberculous disease may be conveyed to the human by other animals, notably, by cattle. Dairy cows, in particular, if kept in over-crowded and badly ventilated sheds, fall ready victims to tuberculous disease, and, *through their milk*, may convey it to milk-feeding people, *particularly children*. This danger, in a great measure, may be guarded against by, *in all cases, boiling or otherwise thoroughly cooking suspected milk* before consuming it. There is a lessened but still sensible risk in eating the flesh of tuberculous cattle, for the risk cannot be entirely banished by cooking, the interior portion of joints, etc., rarely reaching a temperature sufficiently high to kill the bacilli.

It should be the duty of specially-appointed veterinary surgeons *to make periodical inspections of all dairy cattle—to*



order their destruction when desirable (fair compensation to be given in all cases where the owner has taken reasonable care to give no encouragement to the disease), and to supervise the disinfecting of the stalls, sheds, etc., which have been occupied by the affected animals. But one fears that these simple precautions will only be adopted when the electors of this Realm of England have realized "that public health *is* public wealth," and make the promotion of national healthiness "the supreme law."



# REPORT

OF THE

## CHIEF SANITARY INSPECTOR.

Health Department,  
Municipal Buildings,  
Norwich, 1909.

TO THE MEDICAL OFFICER OF HEALTH.

Dear Sir,

The following is a synopsis of the principal work carried out during the year ending December 31st, 1908.

In order that comparisons and references may be easily made, I have so far as possible followed up the form of report adopted during the past years.

5,739 Nuisances detected.

857 Notices served by order of the Health Committee.

1,620 Preliminary Notices served.

21,234 Premises re-inspected.

2,273 Nuisances have been abated.

414 Special complaints have been received and the premises inspected.

1,151 Letters sent in order to obtain the abatement of nuisances, &c.

144 References to the City Engineer.

212 References to the Water Works Company.

The following are the principal matters that have been dealt with :—

1,024	Orders served to provide efficient closets.
636	„ „ repair defectively paved yards.
447	„ „ repair or disconnect rain water pipes.
491	„ „ cleanse and unstop yard drains.
389	„ „ provide efficient privy pans and dust receptacles.
300	„ „ efficiently trap yard drains with gullies.
175	„ „ repair defective water closets.
149	„ „ cleanse dirty houses.
106	„ „ remove and cease to keep animals.
167	„ „ repair defective house roofs, floors, &c.
65	„ „ remove foul accumulations.
48	„ „ abate overcrowding.
83	„ „ repair defective eaves gutters.
53	„ „ repair or disconnect sink waste pipes.
33	„ „ empty and cleanse foul cesspools.
19	„ „ provide premises with a proper supply of water.

### **PRIVY CONVERSIONS.**

Private owners continue to convert privies into water closets without notice from the Corporation. During the past year 181 privies have been so converted.

### **INFECTIOUS DISEASES.**

1,123 visits have been paid to infected premises.

1,156 rooms have been disinfected upon the removal or recovery of the patient.



Liquid and powder carbolic disinfectants have, as in former years, been given to the householders gratuitously in all cases of infectious disease, and for disinfecting purposes generally.

### **HOUSE TO HOUSE INSPECTION.**

1,552 houses and premises have been visited.

### **YARD AND COURT INSPECTION.**

7,039 visits have been paid to Yards and Courts.

The privies and yards found dirty were cleansed at the request of the Inspectors. Other sanitary defects found are dealt with under the term "Nuisances" in a preceding column.

### **SLAUGHTER-HOUSES.**

Number of Registered and Licensed Slaughter-Houses, 39.  
2536 visits have been paid to slaughter-houses.

It was found necessary to caution several occupiers of slaughter-houses respecting the dirty condition of the walls and floors, and the non-removal of refuse in accordance with the Slaughter-House Bye-Laws.

### **MARKETS.**

The Fishmarket has been visited and inspected daily, and the Vegetable, Fruit, and Provision Markets on Market Days.

The Inspectors on duty every Saturday evening for the purpose of inspecting the meat, poultry, fish, &c., exposed for sale in the Provision Market, and for examining articles of food exposed for sale in the poorer parts of the City, have on several occasions found it necessary to deal with various articles of food which were in a condition unfit for the food of man, and such articles have been included in the undermentioned list of unsound food.

**UNSOUND FOOD.**

The following have been destroyed as being unfit for human food, with the consent of the owners:—

- 15 Carcases of Mutton.
- 5        „        Beef.
- 3        „        Pork.
- 2        „        Veal.
- 3 Hindquarters of Mutton.
- 2 Quarters of Beef.
- 1 Fore-quarter of Pork.
- 28 Ox Livers,
- 7 Sets of Ox Lungs.
- 1 Ox Kidney.
- 1 Ox Tongue.
- 1 Pig's Pluck.
- 1 Crown Fat.
- 177 Boxes of Kippers.
- 60 Bags of Shrimps.
- 25        „        Mussels.
- 1½ cwt. Mussels.
- 13 Salmon.
- 12 Bags of Cockles.
- 11 Boxes of Roes.
- 10        „        Mackerel.
- 8 Barrels of Crabs.
- 6 Boxes of Filleted Haddock.
- 5        „        Cod.
- 4        „        Catfish.
- 3        „        Colefish.
- 3        „        Haddocks.
- 2 Peds of Crayfish.
- 1 Case of Salmon.
- 1 Kit of Witches.

Legal proceedings were taken against a butcher for having unsound meat in his possession. There were four summonses

issued against him. In two instances the summonses were dismissed, and the other two summonses were withdrawn.

### PROCEEDINGS UNDER THE SALE OF FOOD AND DRUGS ACTS.

During the year 204 samples of food and drugs have been submitted for analysis.

Description of Samples.	Number of Samples.	Result of Analysis.	
		Genuine.	Adulterated.
Milk ... ..	140	120	20
Butter ... ..	23	22	1
Baking Powder ... ..	10	10	—
Malt Vinegar ... ..	7	6	1
Sugar ... ..	6	6	—
Camphorated Oil ... ..	4	4	—
Coffee ... ..	4	4	—
Cream ... ..	3	—	3
Bread and Butter ... ..	2	2	—
Cheese ... ..	2	2	—
Lard ... ..	2	2	—
Cream of Tartar ... ..	1	1	—
	204	179	25

Number of samples of Milk taken on Sundays, 38.

In 14 cases proceedings were taken against vendors of adulterated articles:—

11 in cases of adulterated Milk.

2     "     "     "     Cream.

1     "     "     "     Butter.

In 13 of the above cases the magistrates convicted and imposed fines varying from 3/- and 7/- costs to £2 and 9/- costs.

In one case of Cream the summons was dismissed.

In eight cases of adulterated Milk and one of Cream the vendors were written to and cautioned, and in one case of Milk and one of Malt Vinegar no legal proceedings were taken,



In 5 cases vendors were written to and cautioned for artificially colouring Milk, and in 2 cases for Milk being just below the standard in milk-fat.

Particulars of the prosecutions are given below :—

No.	Date.	Adulteration.	Article.	Fine.
	1908.			
240	April 3rd	95 per cent. foreign fat	Butter	£2 and 8/- costs
289	June 3rd	14 $\frac{1}{4}$ " added water	Milk	£1 and 6/- costs
288	July 8th	27 " " "	Milk	£1 and 7/- costs
302	" "	9 " fat deficient	Milk	10/- and 7/- costs
307	Aug. 14th	14 " added water	Milk	£2 and 7/- costs
306	" "	3 $\frac{2}{3}$ " " "	Milk	10/- and 6/- costs
		& 8 " fat deficient	Milk	£1 and 6/- costs
333	Oct. 8th	4 $\frac{1}{2}$ " added water	Milk	£1 and 6/6 costs
357	Nov. 3rd	37 grains per lb. added Boracic Acid	Cream	£2 and 9/- costs
370	Dec. 7th	5 $\frac{1}{2}$ per cent. added water	Milk	3/- and 7/- costs
383	" "	3 $\frac{1}{2}$ " " "	Milk	3/- and 7/- costs
367	" "	10 " fat deficient	Milk	3/- and 7/- costs
392	" "	14 " " "	Milk	4/- and 6/- costs
420	Dec. 23rd	3 " " "	Milk	£1 10/- & 8/- costs
		& 2 $\frac{1}{2}$ " added water		
	1909.			
365	Jan. 8th	21.7 grains per lb. added Boracic Acid	Cream	Dismissed

The following prosecutions were also taken, viz.:—

Date.	Particulars.	Fine.
1908.		
January 3rd	For refusing to supply one of your Inspectors	10/- and 7/6 costs
" "	" " "	10/- and 8/- costs
August 14th	" " "	10/-
December 7th	" " "	10/- and 8/- costs
" "	For selling milk from a can which was not properly marked with the name and address of the seller	1/-

### **WATER ANALYSIS.**

26 Samples of Water have been taken from pumps and draw-wells.

6 Samples were certified to be "unfit for drinking purposes," and injurious to health.

20 Samples were certified "Passable."

In the 6 cases where samples were certified to be "unfit for drinking purposes," the premises have been provided with the Water Works Company's Water.

### **COWSHEDS, DAIRIES, AND MILKSHOPS.**

Cowsheds—

Number on Register, 59.

Number of Cows, 541.

Dairies—

Number on Register, 25.

Milkshops—

Number on Register, 199.

Number of applications for registration, 37.

Number of milkshops closed, 11.

While many milkshops are kept scrupulously clean, there are a number where the milk is kept in close proximity to other articles which are liable to contaminate the milk.

It is much to be hoped that the granting of Licenses to unsuitable persons will shortly be forbidden by Regulations.

### **COMMON LODGING HOUSES.**

The Common Lodging-houses have been visited weekly, and were found to be conducted in a fairly satisfactory manner.

### **HOUSES LET IN LODGINGS.**

358 visits have been paid to houses let in lodgings, and many rooms were limewashed at the request of the Inspectors.

**MEETINGS OF OWNERS.**

543 Meetings of owners have been held.

**OFFENSIVE TRADES.**

170 Inspections have been made of premises where offensive trades are carried on.

**SMOKE OBSERVATIONS.**

60 Smoke Observations have been taken.

It has been necessary to caution several manufacturers and firemen, and recommend the use of a better class of coal and the exercise of greater care in firing.

**SHOP ASSISTANTS ACT.**

21 Inspections have been made to see that the requirements of above Act were carried out.

**PIGGERIES.**

95 Visits have been paid to Piggeries, many of which have been cleansed at the request of the Inspectors.

**BAKEHOUSE INSPECTION.**

Number of Bakehouses on Register, 165.

Visits paid to Bakehouses, 303.

**MARGARINE ACT.**

485 Inspections have been made of premises to see if Margarine was sold, and where such was the case, to see that the requirements of the Margarine Act were carried out.

**FACTORIES AND WORKSHOPS.**

Total number of Workshops in the City	...	618
Number of New Workshops inspected	...	81
Total number of Factories in the City	...	332
Number of Outworkers' Premises visited by		
Male Inspectors	... ..	968



The undermentioned are the insanitary conditions that have been dealt with at the above class of premises:—

129 Workshops and Workrooms have been cleansed and limewashed.

26 Water Closets have been provided.

9 Cases of overcrowding have been dealt with.

8 Workshop floors, ceilings and walls have been repaired.

2 Cases of insufficient water supply have been dealt with.

2 Defective water closets have been repaired.

1 Case of insufficient ventilation has been dealt with.

In one case the W.C. accommodation was efficiently screened from the workroom.

### **SCAVENGING.**

During the year, 10,816 Loads of Privy Bin Refuse were removed by the Night Waggon, and 19,416 Loads of House Refuse by the Dust Waggon in the daytime.

9,180 Loads of Refuse were destroyed at the New Mills Depot.

### **MEMORANDUM.**

There are 4,609 Privy Pans and 2,309 Privy Bins in the city, while 20,332 houses are provided with water closet accommodation.

I am, dear Sir,

Yours obediently,

JOSEPH BROOKS,

*Chief Sanitary Inspector.*







